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ART. I. *Inquiries into the Healthy and Diseased Appearances of the Mucous Membrane of the Stomach and Intestines.* By W. E. HORNER, M. D. Adjunct Professor of Anatomy in the University of Pennsylvania.

THE want of some standard, whereby the healthy and diseased appearances of the stomach and bowels may be distinguished, has been felt, perhaps, by all who have engaged in researches into the pathology of these organs. Though much has been written on the subject, yet the vagueness of the language used by authors, and more especially the great inaccuracy with which they employ the terms representing colours, have opened one of the most extensive fields for disputation, in pathology.

In the numerous post mortem examinations which I have made, both for myself, and my professional friends, I have frequently found that the most opposite conclusions have been drawn from identical appearances in the organs under consideration; and there existed no available experience or authority, by which the correctness of these conclusions could be tested, and the truth determined. These circumstances induced me to institute a series of observations on the gastro-intestinal mucous membrane, and by coincidences entirely accidental, I have been so fortunate as to obtain in a few months a description of information, that in the ordinary current of events might not have been acquired in years.

Three unsettled points present themselves in this inquiry:—1st. What is the healthy condition and appearance of the gastro-intestinal mucous membrane? 2d. What is its appearance in congestion from the agonies of dying? 3d. What is its appearance in genuine red inflammation?

It is necessary in the commencement of this discussion, to set-

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tle the signification of the terms used; this I shall do, not in an arbitrary manner, but according to the meaning attached to them in conversation by some of the most sagacious and intelligent physicians of our city. I am forced to depend upon the inferences of conversation, because the definitions of our dictionaries do not decide; indeed the terms are there used promiscuously. Thus for example, PARR, says that congestion is a swelling that gradually arises and slowly ripens, in opposition to that defluxion which is quickly formed, and terminated. In the Dictionnaire des Sciences Medicales, congestion is defined to be a humoral collection which is formed slowly in some part of the body, increases gradually, and finishes by an intumescence of a variable size; the fluids which form it may be blood, serosity, pus, fat, bile, urine, in one word, any of the fluids belonging to the body. It is thus evident that Parr alludes to the sub-inflammation of modern pathology, and that the other has no specific meaning. I now therefore state that by Congestion, I mean an accumulation of red blood in any part or organ of the body, without irritation or mechanical violence; and by Red Inflammation, the accumulation of red blood which follows any local irritation.

I. *Of the Natural Colour of Mucous Membranes.*

When an animal is bled to death the stomach being empty, the mucous membrane of the latter, and of the intestines, is of a yellowish pearl colour, presenting at a short distance the lightest possible tint of pink; and few or no marks of blood exist, even in the large vessels under the peritoneal coat.

Experiment 1*st*. *April*, 1827.—At a butchery in Spring Garden, a sheep, which had fasted for twenty-four hours, was slaughtered in the usual way, by cutting the throat, and immediately afterwards dividing the spinal marrow in front between the occiput and first vertebra. As soon as life was extinguished we examined the abdomen. The internal membrane of the stomach was of a pearl colour, slightly yellow, approaching to what artists call a light tint of bright brown, and the intestines were almost exactly like the stomach. Neither stomach nor intestines exhibited their blood-vessels, even of the largest size, except very faintly, and there were no red patches in either.

Experiment 2*d*.—Was a repetition of the first experiment, and was followed by precisely similar results.*

* These two experiments, or rather observations, were executed by Dr. La Roche and myself in commencement of a joint series, from which, much to my regret, his departure for Europe withdrew him at this point of our inquiry.

If an animal be killed with a full stomach by puncture of the medulla spinalis at its commencement, the mucous coat of the stomach will retain on the surface where the food was in contact with it, a light lake, approaching vermilion, from the detention of blood in its capillary system. The following experiments proved this:—

Experiment 3*d*, *June*, 1827, at the University.—A full grown female rabbit of the white kind was fed upon green cabbage leaves. In about three hours afterwards she was killed by pithing with a saddler's awl between the occiput and the first vertebra. Immediately upon the introduction of the instrument, the body was seized with a spasm, the extremities were drawn together and convulsed; the animal gaped two or three times, but there was no inspiration. In five minutes after pithing, the abdomen was opened; the circulation was found by pressure upon the veins to be going on but languidly in the parietes of the abdomen and in the abdominal viscera. I waited five minutes more, when it seemed to be completely stopped.

I then cut out the stomach, laid it open along its great curvature and washed away with a stream of water its contents, which presented the appearance of having been well boiled and bruised. The food would have measured probably about an ounce, and was principally in the left half of the stomach: there was no hour-glass contraction of the latter. The mucous coat of the left half of the stomach was of a uniform light lake, approaching vermilion, without blotches or shades of difference, and firm; but the mucous coat of the right half was almost destitute of vessels or injection, and had the dull pearl colour of the stomachs of the sheep bled to death. The mucous coat of the small intestines was the same colour as the stomach, but much lighter.

The vermicular motion continued for ten or fifteen minutes in the intestines, after the abdomen was opened. I observed that the same occurred in the horns and body of the uterus, quite as clearly as in the intestines, and that it could be produced at pleasure by puncture, by clipping, and by stirring. On the uterus being slit open from one end to the other, it flattened itself out, and the internal surface corrugated precisely as in the small intestine. The capillary system of the liver bled freely half an hour after death, upon being punctured with the scissors.

Experiment 4*th*.—A full grown female rabbit—Opened the abdomen, by a cut from sternum to pubes—intestines became very highly injected with blood, in a few minutes after being exposed.—Laid open the colon and irritated the internal coat by rubbing—it took on a bright scarlet lake colour, approaching to vermilion;—on the external face of the same intestine, an anastomosis was manifested resembling a

very fine honey-comb. The stomach was laid open by a section along its greater curvature and the bouillie like contents consisting of green vegetable matter turned out. The internal coat of the stomach highly suffused with blood, and of a deep crimson lake colour. The stomach bled very profusely from the cut surface, in consequence of which, it began to clear up, by its colour becoming less intense. Applied some alcoholic solution of corrosive sublimate upon one spot of the internal coat of the stomach, about ten minutes after the commencement of the experiment—it did not seem to produce any impression, perhaps owing to the hæmorrhage. Killed the animal in twenty-five minutes after commencement, by pithing it behind occiput; then cut out the stomach. The cardiac half was of a light tint of lake colour; the pyloric half was of a yellow pearl colour. The stomach after death, in this experiment, corresponded with experiment No. 3, in the colour being uniform, not mottled. The peristaltic movements were observed in the uterus and its cornua. After pithing, gasping occurred, with the usual cessation of respiration.

Experiment 5th.—A full grown rabbit. Punctured medulla spinalis, at commencement, respiration stopped immediately. In five minutes opened abdomen, capillary circulation as well as that in the larger vessels, brisk. In twenty minutes capillaries of liver, spleen, and kidneys bled on being punctured with a saddler's awl—stomach and bowels did not. Cut the stomach open along its greater curvature and turned out its contents, then removed and washed it well immediately. The left half of a lake, approaching vermilion, uniformly diffused as in experiments 3d and 4th, (see Pl. I. fig. 1,) the right half of a dull pearl, as in the same experiments. See fig. 2.

From the great number of blood-vessels distributed through mucous membranes, they are, during life, of a very bright red colour, on many of the viscera, as the stomach, the small intestines, the lower end of the large, on the vagina and nose; in many other parts they are much less vascular, as in the lining membrane of the sinuses of the nose, in the bladder, and in the excretory ducts generally. The nostril and the vagina, in a robust, healthy person, will probably be found to represent correctly the shade of colour which, in life, belongs naturally to the gastro-intestinal mucous coat.

Observation 1st. Living colour of healthy Mucous Coat of Colon.—There is now a female in the Surgical Ward of the Philadelphia Alms-House, who suffered some time ago from prolapsus ani, which is said to have protruded about six inches: the protruded intestine sloughed off, as well as the sphincter ani and the ad-

joining integuments. This new state of the parts affords a distinct view of the internal coat of the colon, near the sigmoid flexure. The perineum has cicatrized and united to the end of the colon, but the surface is kept excoriated, by the continued excrementitious discharges; from the want of a sphincter. In this patient, the mucous coat is of the colour of the vagina, or of a recently blistered surface of the true skin.

Observation 2d. Sudden death from ossification of coronary arteries, exhibiting natural colour of Gastro-intestinal Mucous Membrane. —*July* 17, 1827. Mr. W. J. aged fifty-five, of remarkably temperate, regular habits; for some years previous to his death, was troubled with a shortness of breathing, upon ascending a flight of stairs. His principal treatment was regularity and abstemiousness. Last night about 10 o'clock, just before he went to bed, he took, as was not unusual, a glass of cream, which he always considered to agree remarkably well with him. About 4 o'clock A. M. he was seized with extreme difficulty of breathing, complained of most violent pain in his loins, said that he was dying, and in a short time expired. From the commencement to its termination, this attack occupied twenty minutes, during which his senses remained unimpaired. Dr. Edward Jenner Coxe was present, he found his pulse regular but small.

At 4 o'clock this afternoon I examined him, assisted by Drs. Dewees and Coxe.

Exterior appearance.—Stature five feet seven inches, square, robust and well set, middle corpulence inclining to obesity. Skin clear and fresh; features placid; some blueness about the neck from settling of blood, lips pale; pupils middling size; no putrefaction; subcutaneous veins bled on being cut.

Thorax.—Lungs perfectly healthy in their parenchyma; soft, elastic; on being cut into discharged a great deal of frothy mucus and serum. Right lung adhering in its whole periphery by old adhesions of coagulable lymph. The left pleura contained five ounces of straw coloured serum, no remains of coagulable lymph to be seen about it; perhaps there might have been more serum which was removed by absorption after death, an idea advanced by Mascagni; injection of pleura not considerable, but I could not judge very satisfactorily on this point, from the difficulty of throwing the light in a proper manner upon it.

Heart larger than usual by one-third, covered with fat; only a few drops of synovia in pericardium. Right side healthy and filled with fluid blood, having no coagula in it; left side contained only a small quantity of fluid blood; left auricle healthy; moderate hypertrophy of

the left ventricle. Semilunar valves undergoing the earthy degeneration so common in advanced life, with very small ossified points here and there; aorta had also undergone as far as the arteria innominata the degeneration preceding ossification. Sinuses of Valsalva twice or thrice as large as natural. Mitral valves somewhat degenerated also.

Coronary arteries of the heart for two inches after their origin, and also the branches leading from them, ossified into rigid inelastic tubes, like the arteries of the extremities in certain cases.

Cartilages of ribs perfectly ossified.

Abdomen.—Liver healthy. Spleen, coats of, interspersed with white patches giving it a parti-coloured look; healthy in other respects.

Stomach middle sized; contained two ounces of mucus, some of which was loose, while the other formed a white transparent coat adhering to the sides, but which could be scraped off easily. Rugæ of mucous coat elevated, but not unusually so; whole internal surface of mucous coat on the summits and sides of rugæ of a very light, warm sienna or bright brown colour, which was produced by innumerable microscopical points of red blood remaining in the capillaries. In the depressions between the rugæ, the stomach of a dull pearl colour.

The jejunum was of a deeper sienna, and of a more uniform tinge than the stomach; contained feculent matter consisting of mucus, yellow bile, and cream, all reduced to a homogeneous and digested mass. Its lacteals were distended with chyle, and were seen converging in their ramifications to the mesenteric trunks which were also filled. The lacteals were not perceptible in the ileum.

The colon presented its mucous coat of a dull pearl colour, and contained soft healthy fæces adhering to its sides.

Peritoneum entirely and unexceptionably healthy. Brain not examined, as there had been no symptoms of apoplexy or cerebral disease.

I never on any occasion of my life found the abdominal viscera in a state which seemed indicative of more perfect health, or more suitable as a standard of observation; the case I consider in this respect as invaluable. See Pl. I. fig. 3 and 4.

We have now ascertained the colour of a healthy gastro-intestinal mucous coat, in death from hæmorrhage after fasting; in death from puncture of medulla spinalis with a full stomach; in sudden death without the least probability of a diseased digestive apparatus, the stomach being empty; and finally in the living state. We shall next endeavour to ascertain the colour in Congestion.

II. *Colour of Mucous Membranes from Congestion.*

Our materials for elucidating the laws and phenomena of passive congestion, are exceedingly imperfect and scanty. According to one writer,* congestion is the effect of torpor of habit, connected with an abstraction of stimulus, and is for the most part local. It is seldom accompanied with febrile irritation till it acts as an extraneous stimulus. Febrile motions may sometimes be the product of congestions; congestions, depositions, or evacuations are uniformly the product of febrile motions, that is, of irregular action. Dr. Armstrong has also written, indeed diffusely, on what he calls the congestive typhus fever, (p. 68—97;) but the cases which he has given in illustration of his views, would seem rather to belong to diseases of irritation, than to passive congestion of the organs affected. He has also made some capital omissions in not giving us the laws of congestion; in not saying a word about the state of the mucous coat of the stomach and bowels; and in confining his attention almost exclusively to the liver, spleen and brain.

The congestion of red blood in any part of the body, is commonly produced by an obstruction of one or more of the large venous trunks which return the blood to the heart. A ligature on the arm for the purpose of bleeding has this effect; garters worn too tightly, or indeed any other articles of dress which interfere with the return of blood produce the same; lymphatic or aneurismal tumours situated near the junction of the extremities with the trunk of the body, also produce a congestion of blood in the parts beyond them, by pressing on the adjoining veins. Position will do the same, as throwing the head downwards and forwards in certain individuals who are corpulent and have short necks. Permitting a column of blood to remain too long on a part, sometimes has this effect, as in standing or walking, which in certain persons is followed by a great accumulation of blood in the legs and feet. The general character, however, of all these cases of congestion is, that the congestion disappears the moment that the cause that produced it, is removed. It very rarely happens that the capillaries and the larger veins are more than simply distended under such circumstances, and they quickly contract to their healthy diameters. It however occurs occasionally in pregnant women, near the term, to have some of the fine blood-vessels of the legs ruptured, in which case there follows an extravasation of blood in small bluish spots about half an inch in diameter, and which being a true ecchy-

* Jackson on Fever, 1803, p. 197.

mosis, presents the same variations of colour, and is removed by the same process as the latter when caused by bleeding.

It is practicable to produce a congestion of the whole venous system, by obstructing the general circulation. If such obstruction be continued till the death of the individual, the phenomena of congestion are exhibited in swollen face, bulging eyes, blue lips, tumefied and red tongue, with purplish or red blotches on various parts of the surface of the body, but especially about the head, neck, and trunk. The most usual causes of such obstructions to the general circulation, are asphyxia, from hanging, drowning, or irrespirable gases. The mucous membrane of the lungs wanting in this case the usual stimulus of atmospheric air, refuses passage to the blood from the ramifications of the pulmonary artery into those of the veins, and a complete arrest is thus put upon the general circulation. The lung becomes the seat of a congestion or engorgement in its capillary system, and all the mucous membranes of the body suffer in the same way.

Bichat's experiments,* are quite conclusive on this point. He says that in an animal in whose trachea a stop-cock has been fixed, if you draw out a portion of intestine and split it open, then close the stop-cock; in four or five minutes afterwards, a dark brown colour will succeed to the red, which previously characterised the mucous surface of the gut; and the same change of colour will occur in a granulating surface under similar circumstances.

The lividity of the surface of the body, and of its mucous membranes, may be made to come and go at pleasure, by interrupting or restoring the freedom of respiration. The arrest of the capillary circulation is, however, not to be considered as a mechanical phenomenon, but a physiological one; for the animalization of the blood being somewhat affected or altered from the want of respiration, the sensibility of the capillary system is not properly excited by it, and therefore this system refuses to propel the blood. The blood in this respect may be compared to extraneous fluids, which, if they be injected into living blood-vessels are found not to run so minutely as they do some time after death, when the vessels get into a passive state.† Parallel phenomena are common, and are well exhibited in the actions and sensibilities of many parts of the body. For example, the trachea, which is so large, yet closes immediately against the introduction of fluids which are unfit for respiration, as proved by Goodwin's experiments. The urethra in a state of sexual excitement will transmit the semen, but not the urine; the lacteals readily absorb the nu-

* Anat. Gen. Vol. I. p. 188. † Bichat, Anat. Gen. Vol. II. p. 25.

tritious part of the chyle, but refuse the remainder, notwithstanding the equal fluidity of both. A moment's reflection will satisfy us that such powers of discrimination are indispensable to the operations of the system, for without them, the several fine tubes of the human body, vascular, absorbent, and secretory, would be continually mixing their fluids in a manner inconsistent with life and its objects.

It is not improbable that several species of purpura, as the urticans, the senilis, and the hæmorrhagica, all of which seem to be an arrest of the red blood in patches in the true skin, or rete mucosum, have in their pathology a close connexion with the purple spots from asphyxia—that is to say, that there is a want of reciprocal sympathy between the red blood, and the capillaries of the part, and therefore it is arrested in its passage through the latter. These spots may be distinguished from a common ecchymosis, by their boundaries being well defined, and also by their deep, varying colour, which being sometimes lighter, and sometimes darker alternately, show that the blood forming them, though arrested, is yet under the influence of animalization. The colour alternating is, however, not an invariable feature of this disease. I have lately met with a case of purpura hæmorrhagica at the Alms-House following an inflammation in the cellular substance on the front of the knee, and extending over the anterior semi-diameter of the leg from the knee to the foot, where there were no alternations of colour, and the disease disappeared like a common ecchymosis. I have subsequently seen it a prelude to mortification in the leg of a patient, Anthony Hartman, aged 25, in the same institution. The patch which it formed, surrounded almost the whole leg about its middle, in a band of five or six inches.

In the more common cases of congestion, as the accumulation of blood is removed immediately upon the cause being withdrawn; so the organ of the body, which has been the seat of it, is quickly restored to its usual functions, and the disturbance which they have experienced, readily disappears. If, however, the congestion be permitted to remain an undue length of time, the preponderance of the fluids will cause the congested part to inflame and even to mortify, as in strangulated hernia.

The following dissection of a patient, who died in the Alms-House, will serve to illustrate the state of the stomach and bowels in congestion from a slow process of asphyxia, and to fill up partially the very wide gap in this part of physiology and pathology.

Observation 3d. Congestion of Gastro-intestinal Mucous Coat. —Wm. Thomson, æt. 37, admitted June 8th, 1827, with abscess around cricoid cartilage, died June 10th.

Previous History.—While in France, some years since, had secondary syphilis and other constitutional affections,—was salivated for a length of time—recovered—came to this country; where he has continued since in the capacity of coachman. Has drank freely for some time past. About four months since, had common catarrh, the result of which was some difficulty in deglutition and respiration, and tremor in the throat.

Symptoms.—When admitted, there was a flattened, immoveable tumour in front of the thyroid cartilage, about two inches in diameter, half an inch thick—inspiration difficult in the extreme, amounting almost to suffocation—expectoration purulent—deglutition exceedingly painful—countenance anxious and distorted.

The tumour was removed by the knife on the day of admission, at four o'clock, P. M. I found it lying on the whole front part of the thyroid cartilage, between it and the sterno-hyoid muscles. The wound was filled with lint, and then covered with a compress of the same, maintained by a roller: in ten or fifteen minutes afterwards, it began to bleed rather freely. I then removed the dressings, turned the clot of blood out of it, sponged, and not finding any bleeding vessel, I directed it to be left undressed, with a light cloth thrown over it. This answered to arrest the bleeding until midnight, when it again bled half a pint and then stopped. The tumour was of the hard encephaloid kind, having, however, a small purulent softening in front; it seemed as if it might have come from a lymphatic gland; but its flattened shape was adverse to this idea: neither had it a distinct capsule.

He spent the night but slightly relieved by the operation, pulse rather full, and tense—expectoration and deglutition less painful and difficult—the former thick, white, purulent and consistent—Ordered venesection ℥viij. R. Tart. Ant. gr. ii—Aq. pura, ℥viij. M. A table-spoonful every hour—took six doses, then stopped on account of nausea.

June 9th.—Respiration very laborious—expectoration as yesterday—will not consent to tracheotomy, which I now proposed to him. On the next day, died at ten o'clock, A. M.

Autopsy, six hours after death. An entire removal of the tumour over the thyroid cartilage—its bed thickly covered with coagulating lymph—thyroid gland healthy—superior laryngeal nerves not affected—No marks of capillary congestion, on the surface of the body—Lungs healthy in structure, some old pleuritic adhesions on left side—no particular congestion, save at their posterior part, perhaps less blood than natural found on cutting into them—miliary deposites of coagulating lymph on the surface of both lungs.

In pericardium about ʒiij. of straw coloured fluid.

Abdomen.—System of vena portarum, filled with blood; even in the fine intestinal branches, which were very conspicuous under peritoneum, so as to give a light purple colour to the whole of the small intestinal canal: in places it was interspersed with mahogany coloured patches of two inches diameter. Colon externally was of a white pearl colour, contracted to three-eighths of an inch in diameter, and contained natural, hard fæces. There were no fæces in small intestines, only flatus.

Along the whole anterior margin of the liver, a little above its edge, there was a white, hard cicatrix of old, condensed coagulating lymph; mixed at intervals with hepatic structure, by penetrating at various places from three to six lines into it. This terminated near the right end of the great lobe, by a depression, as if an abscess had once existed there. On cutting into the liver, near the cicatrix, many small miliary tubercles were found there, but they were not observed at more remote places.

Gall-bladder filled with healthy bile.

Spleen healthy, but completely surrounded by old adhesions.

Stomach, common size; of a pearl colour on peritoneal surface. Internal or mucous coat, covered with mucus tinged with bile—corrugated—light pink colour, generally—summit of rugæ, from accumulation in capillaries, appeared like red streaks, at the distance of six feet, from being covered with minute dots of red of the size of a needle point. No large patches of ecchymosis or red blotches, so conspicuous in inflammation.

Intestines. Mucous coat covered with similar small dots or points of red. Internal membrane of colon, slightly tinged with red dots. Besides the hardened fæces in the commencement of this viscus, there were some small pieces of it along its course.

Œsophagus natural; internal coat white pearl colour, and the venous ramuscules filled with blood, but the dots not conspicuous.

Throat. Along the upper margin of the glottis, as formed by the doubling of the membrane from the tip of the arytenoid to the side of epiglottis cartilage a tumour existed on each side, formed of serum and coagulable lymph, about the size of a small nutmeg, so loose as to hang over the glottis, and to be drawn over the rima glottidis in every act of inspiration.

Cricoid cartilage, at posterior part both externally and internally, separated from its perichondrium; whose surface was in the condition of a fistulous sore.

Aryteno-cricoid articulation, detached by the extension of the latter disease. A sinus formed communicating between the fistula and the

right ventricle of the larynx. Posterior part of cricoid cartilage reduced to a thin edge above—its diseased surface, rough and resembling a carious bone—lining membrane of trachea and bronchia, natural.

Head.—Scull-cap bled freely when torn up. Veins of dura mater and pia mater much congested. Tunica arachnoidea, raised up from pia mater, by serous effusions in the interstices between convolutions.

Mass of cerebrum, congested with blood.

Ventricles contain ℥ss. serum. Serum, on basis of *brain*, under tunica arachnoidea: arteries of base, filled with blood. *Pons varolii*, congested. Fourth ventricle contained serous effusion. Texture of the cerebrum and cerebellum, natural.

To sum up what has been said, it appears then—

1st. That congestion is not an active condition of the part affected. When active it constitutes inflammation.

2d. That congestion most frequently is the result of mechanical impediments to the venous circulation.

3d. That the other cases in which it occurs, are where there is a want of reciprocal sympathy between the blood and the blood-vessels in the capillary system, in consequence of which, the latter refuses passage to the red blood.

III. *Of the Red Inflammation of Mucous Membranes.*

Red inflammation has for its symptoms, heat, pain, redness, and swelling, all of which are very obvious when it attacks a portion of the external surface of the body. It differs from congestion, in the latter causing an accumulation of blood in all the capillaries of an organ in which the blood is arrested, while inflammation is most frequently limited to a single tissue, and exhibits redness in it alone, or at least, principally; as for example, in mucous coats during their inflammation, in muscular during theirs, in peritoneal during theirs, &c. This however must depend upon the intensity of the inflammation, for where it is very considerable, adjacent coats will also be affected.

Congestion is regular in its progress, and begins without constitutional symptoms; whereas, inflammation begins with a chill, has exacerbations and remissions, and a course of augmentation, of stasis and of decline. They both may terminate by delitescence or a disappearance of the accumulated blood, or by resolution when particles of red blood are infiltrated, but inflammation also terminates in suppuration, in scirrhus, in hepatization, and softening of a part.

The traces of acute inflammation are in many cases very fugitive, and entirely disappear upon death, because the local irritation which attracted the blood and accumulated it, having ceased, the blood

abandons that part and retires towards the centre of the circulation. We can seldom tell by the appearances twenty-four hours after death, the quantity of blood which has penetrated an inflamed membrane, as the peritoneum, the pleura, the cellular and mucous membranes, the skin, &c. The eruption of measles, and the redness of sore throat disappear on the death of the patient. We are not, however, to infer from these circumstances, that the mere afflux of blood to a part constitutes inflammation, on the contrary it is attended with a dilated condition of the vessels independent of this afflux, for if death occur during the height of measles, the eruptions may be made to reappear by injecting the vessels.

Bichat* has very properly observed, that in inflammation we should distinguish between acute and chronic affections, because, though the blood readily vanishes from the former, yet it will remain in the latter, because it has combined with the diseased organ. Hence, induration, suppuration, and vitiated secretions are satisfactory signs of inflammation of a part.

The increased irritability of a part is the cause of its inflammation, and of the afflux of fluids to it. Frequently this increased irritability depends upon the sudden diminution of irritability in other parts of the body, by depressing applications. Thus, cold suddenly applied to the surface by depressing the irritability there, causes an accumulation of it with inflammation of some one of the internal organs, as the lungs or bowels. Direct undue stimulation of an organ or part, will produce an augmentation of it irritability amounting to inflammation. The natural increase of irritability of organs at particular periods of life, sometimes amounts to inflammation, as that of the uterus at puberty manifested by menorrhagia, amenorrhœa, &c. the extreme tenderness of the breast at the beginning of lactation—the tenderness of the testicles during a state of sexual excitement, &c.

It is principally in the capillary system,† that the phenomena of inflammation occur, and that the varying degrees of organic sensibility determine corresponding movements in the circulating fluids, accumulating them at one spot, and expelling them from another. Inflammation is therefore exactly the inverse of what Boerhaave believed, for, according to him, the blood pushed from behind by the heart into an organ caused its irritation or inflammation; whereas it is the irritation which attracts the blood.

Irritation has all the gradations from the light, alternating and varying blush of virgin diffidence to that rapid and tumultuous af-

* Anat. Gen. vol. 2. p. 22. † Idem, p. 25.

flux of fluids to an organ which in a few hours produces its dissolution. In slight irritations there is no fever, but when they are more intense there is an increased heat of the body, and an accelerated circulation throughout it. Fever in such cases, is merely a general symptomatic affection, arising from the sympathy which connects the heart to all other parts, and has nothing of the specific affection in it, but merely manifests the grade of the irritation. Thus, a fever from a syphilitic bubo is the same as a fever from measles, from small-pox, or even from a mechanical injury.*

When the irritation of a part goes beyond certain bounds, the sensibility is exhausted, and death ensues.† The vital condition having abandoned the solids, the fluids get quickly into a state of putrefaction, this state is the gangrene of writers, and is well depicted in strangulation of an intestine, or in mortifications which frequently occur in the legs of drunkards. Bichat‡ goes so far as to say, that when the organic sensibility of the part begins to diminish, the blood which has been attracted by the inflammation may even then tend to putrefaction, but always the want of tone in the solid precedes it.

There are many proofs of inflammation being seated in the capillary system, and of the circulation of the latter being in some measure independent of the general circulation. 1. The partial erythemas of the skin. 2. In slight incisions or scratches the skin will bleed very little at first, but so soon as the irritation has determined a flow of blood to the part, the hæmorrhage is sometimes troublesome, as in shaving. 3. The secondary bleeding from operations is sometimes very profuse from this cause. 4. Another, and a very strong proof of the power of the capillary circulation to go on without the impulsion from the heart, is that if a limb be made turgid with blood by the application of a tourniquet as in common amputation; when it is cut off, though it be completely withdrawn from the influence of the heart, yet the capillaries empty themselves, and the limb becomes as pallid as under any other circumstances of death. Though I feel satisfied of the capillary circulation being different from the circulation in larger vessels in not depending wholly on the heart, yet it is to be understood that I do not withdraw it entirely from this agency, for there are many strong proofs of its subordinancy. In the inflammation of transparent parts, for example, of the skin under the

* Bichat says, (An. Gen. v. 2. p. 30,) he believes that if one examined attentively local affections and general fevers, he would find invariably the species of fever to correspond with the species of local affection in its nature. I do not coincide in this sentiment.

† An. Gen. v. 2. p. 29. ‡ Ibid.

finger nail, where vascularity is very perceptible, every pulsation of the arteries of the upper extremity is attended for the moment by an increase in the vascularity of the part inflamed, and a deeper suffusion of it.

From the several observations now made, it is clear that the blood upon reaching the capillaries moves through them by their peculiar tone, and not exclusively by the action of the heart. But as many causes alter this tone or sensibility, causing it to increase or diminish, the motions of the blood in the capillaries will undergo corresponding varieties, and frequently become irregular. A slight irritation will cause it to advance, to recede, to turn to the right or to the left. By the experiments of Haller, Spallanzani, and of others, often repeated and entirely well attested, it appears that the blood under ordinary circumstances moves straight forward from the arteries into the veins; but upon the application of an irritant, its movement becomes irregular, and inclines in every variety of direction, backwards as well as forwards. These movements of the globules of blood are very distinct in the transparent parts of animals having cold but red blood; they are seen with more difficulty in the warm-blooded, even in parts of the same transparency.* As Bichat remarks, it is hence easy to see that all the phenomena of inflammations, of eruptions, of tumours, &c. are founded especially upon this susceptibility of the blood in the capillary system, to be borne into an infinity of different directions, according to the places where it is called by the irritation.†

Fevers can only exist in animals who have a regular round of circulation, whose fluids move in mass. In zoophytes and animals whose circulation is entirely capillary, we only see such phenomena as belong to the capillary system, as tumours, adhesions, &c. Vegetables, for the same reason, have only the diseases of the capillary system.‡

The irregularities in the capillary circulation are always partial, for if the blood move more slowly or go backwards in one place, it will proceed more speedily in another, so as to maintain the general circulation; if it were otherwise, life must cease, for it would be incompatible with it for all the capillary circulation to be arrested, or to go backwards at once. Hence arises a law of organism always strongly exemplified in disease, that if the vital forces augment their energy at once place, they diminish it in another. There appears indeed to be only a certain quantity allotted to each individual, and though it may be accumulated at certain points so as to present a disproportionate sum in different parts of the body, yet it never

* Anat. Gen. v. 2. p. 39. † Ibid. ‡ Idem, 38.

can be augmented or diminished in mass by disease. This principle is the foundation of all correct physiology and pathology, and is in fact, a matter of daily observation We learn from this why it is that general bleeding is frequently inefficient in local inflammation, for so long as local irritation continues, whereby blood is attracted, (not driven,) to a part, the mass of blood may be diminished one quarter, and yet the inflammation will continue; whereas, in an animal having no irritated point in his system, you may double the quantity of blood by transfusion, and yet not produce local inflammation.*

Every operation of nature manifests an economical or exact application of means, to effect an object; there is nothing superfluous. We therefore see that during the waking state, the vital energies and the currents of blood, are principally directed towards the senses and organs of animal life, or those of relation, as the muscles, &c. and that during sleep, the vital energies are applied to molecular nutrition, and the repairs and general restoration of equilibrium in the system. Infants sleep more than adults for the reason that their molecular nutrition or growth is more imperiously required. Deprive any one of sleep, and he soon becomes haggard and emaciated. There is a continued alternation in each individual, in the actions of the system, and in the currents of blood, depending upon the waking, and upon the sleeping, states, one set of organs requiring the blood more at one time, and another set at another. It is impossible for an undue excitation, and an undue rush of blood to occur upon all points of the body at one and the same time, or in other words, for there to be a general disease. A general disease or inflammation would be as little consistent with nature, as a general rise in the waters of the ocean, which we know to be always lowered at one place when they are raised by the wind or other causes in another. Such an inference would be a solecism in pathology for the reason that disease implies a loss of equilibrium in the actions of the body, by one or more parts having an unnatural preponderance. The general actions of life may all be increased at the same time, as one increases the weights upon each end of a pair of scales, and yet preserves an equilibrium, but so soon as we take from one or add to the other, the equality is destroyed.

It is perhaps owing to molecular nutrition being stronger at night, that the symptoms of inflammation, (which latter at least in its milder forms bears some analogy to the former,) are increased at this time.

The general augmentation or acceleration of the actions of the body in exercise, as running, jumping, and so on, differs from dis-

* Anat. Gen. v. 2. p. 41.

ease in this respect, that there is no concentration of irritability in any one organ, and a consequent afflux of blood; but on the contrary, the equilibrium of the system is maintained, notwithstanding the apparent haste and momentum of its actions.

The causes which produce inflammation of the mucous coat of the stomach and bowels are numerous, and in many individuals there is an idiosyncracy which inclines them to it, from very slight causes. Persons who are exposed to the changes of the atmosphere by sleeping out of doors, as in military life, present frequent examples of it; bad aliment, or an excessive indulgence in what is good, also disposes to it. Poisons of all kinds may produce it, also moral affections, as melancholy, rage, &c. As my principal object, however, is to point out the anatomical characters which are left after death by gastro-enteritis, I must confine myself to such remarks as are pertinent to them.

In acute inflammation of the mucous membrane of the stomach, when the patient dies in the early stage of the disease, the blood-vessels which ramify through the stomach, are enlarged and distended with blood. The membrane itself is covered by a coat of mucus, which is sometimes limpid like the white of an egg, but on other occasions, thick and purulent like that from the nose. The mucus adheres frequently very strongly to the stomach, and is now and then so tenacious and consistent from the admixture of coagulating lymph with it, as to resemble a false membrane. When the coat of mucus is scraped and washed away, the mucous membrane itself is brought into view, being most frequently in the greater part of its extent of a deep red, approaching on some occasions, a crimson red, on others, a purple or black. These colours are owing to the injection of a prodigious number of capillary vessels in the mucous coat; and in addition to them we find the inflamed part of the stomach interspersed with bands and patches of red, of the colour of coagulated blood, being a species of ecchymosis, in which the blood has escaped beneath, and in the substance of the mucous membrane. The mucous membrane at these places is somewhat softer than natural, and sometimes appears swollen, may be readily detached from the cellular coat with the end of a scalpel, and is in the condition of a bouillie. In cutting through all the coats of the stomach, and looking at the incised edge, it will be seen that where the general and diffused redness exists, the colour is only superficial; but at the ecchymosed spots, not only the whole thickness of the mucous coat is concerned, but even the corresponding part of the muscular, is more highly coloured than in common. In some cases where the gastritis has been occasioned by

caustics, there are eschars of the mucous membrane, some of which are detached and leave the muscular, or even the peritoneal coat bare from the depth of the impression made. It is said that such eschars became more distinct some hours after the stomach has been exposed to the air.*

In some cases of acute inflammation where the symptoms have been those of army dysentery, or of typhus fever, the stomach and bowels are occasionally found a little thicker than usual, and of a yellowish brown or red colour on their peritoneal surface, and in their thickness; the fœtor from them on opening the abdomen, is much greater than usual, and the peculiar smell of the halitus from the peritoneum is overcome by it.

Some circumstances have been alluded to by Drs. Physick and Cathrall†, which, if properly appreciated, would contribute much to settle the opinions of medical men in relation to gastric inflammation; for they go to show that the appearance of the inflammation of yellow fever varies according to the date of the disease. "In two persons who died of this disease on the fifth day, the villous membrane of the stomach, especially about its smaller end, was found highly inflamed, and this inflammation extended through the pylorus into the duodenum some way." The inflammation was exactly similar to that produced by arsenic.

"In another person who died on the eighth day of the disease, several spots of extravasation were discovered between the membranes, particularly about the smaller end of the stomach, the inflammation of which had considerably abated. Pus was seen in the beginning of the duodenum, and the villous membrane at this part was thickened."

"In two other persons who died at a more advanced period of the disease, the stomach appeared spotted in many places with extravasations, and the inflammation disappeared." It and the intestines contained a black liquor so acrid as to produce inflammation and swelling on the operator's hands, which continued for some days.

"The stomach of those who died early in this disease was always contracted; but in those who died at a more advanced period, where extravasations appeared, it was distended with air." The external surface of the stomach was healthy, but from its veins being distended with blood they had a dark appearance.

In the dissections performed by Dr. Physick in the years 1798–99,‡ the inside of the stomach in some cases resembled the black vo-

* Dict. des Sc. Med. T. 17.

† Rush's Inquiries, Vol. 3, p. 172. Philadelphia, 1809.

‡ Medical Repository, New York, Vol. 5, p. 129.

mit precisely in colour. In most of these cases no black matter was found in the cavity of the stomach, but the blackness depended upon this fluid being retained in the vessels of the inflamed mucous membrane. The doctor remarks that he never observed any putridity attending it, and that the colour was very distinguishable from the dark purple of gangrene. In some stomachs the blackness was universal; in others, in spots only; there being some spots in a state of high inflammation, and giving the inside of the stomach a chequered appearance. These spots, in one instance, resembled one another precisely in shape, and in all other respects, excepting colour, in which they differed, one being black and the other red.

Dr. Physick's opinion on these subjects was, that this black matter, commonly called the black vomit from its being ejected by vomiting, was a secretion from the inflamed vessels of the stomach, and one of the most common modes by which violent inflammation of the stomach has a disposition to terminate. "For in some cases where the vomiting of black matter had been considerable in quantity, or continued for several days the inflammation was found very faint indeed; and in some the inside of the stomach appeared as if covered over with a vast number of small glands, like mucous follicles crowded together."*

When chronic inflammation has assailed the mucous coat of the stomach, this membrane is commonly found thrown into numerous folds. Sometimes it is thickened, of a denser texture than natural, and reddish, with irregular white patches. On other occasions, the whole of it is red with purple spots, as in acute gastritis; sometimes the whole of it is of a purple, approaching to claret colour. When the disease has been produced by poisons of a force insufficient to cause immediate death, small ulcers are found near the pylorus, and along the greater curvature of the stomach.†

In some observations that I have made on the stomachs of intemperate persons at the Alms-house, I have found the mucous coat thickened and dense, without any remarkable contraction of the stomach, yet thrown into numerous, thick, elevated rugæ, and the summits of those rugæ, so reddened by numerous capillary vessels injected with blood, that at the distance of a few feet they appeared, when the distinction of the individual capillaries was lost in the distance, like red streaks. This, which is probably one of the pathogno-

* Medical Repository, New York, Vol. 5, p. 129.
† Dict. des Sc. Med. T. 17, page 379.

monic signs of a recent debauch in an old drunkard, is frequently mistaken in the post mortem examinations at the Alms-house, for congestion, from an arrest of blood in the agonies of dissolution.

The red blotches which form the leading anatomical character of acute mucous inflammation in malignant fevers may be readily produced by chemical irritants.

Experiment 6th.—A full grown white rabbit fed three hours before on cabbage leaf, was fixed in a frame, and the abdomen opened by a cut from the sternum to the pubes. The stomach was drawn out, it was filled with the food, (which exhibited the appearance of having been boiled,) and had an hour-glass contraction in its middle, separating it into two sacs with a small orifice between them. The stomach was opened all along its greater curvature, and the food turned out; the whole mucous coat was of a scarlet-lake colour. This colour became deep crimson-lake, and the stomach more suffused with blood on wiping or rubbing the mucous coat with the hand. To one part I applied the glass stopper of a bottle, wet with a saturated solution of corrosive sublimate in sp. vin. rect. which had the effect in three or four minutes of deepening the colour of that part still more.

The colon was in greater part filled with soft fæces. The small intestines on being cut into, exhibited the mucous coat of a light-lake, approaching vermilion, which colour remained after death.

In this experiment an ounce and a half of blood was lost from the cut vessels. I had proceeded to open the trachea, and had fixed a pipe into it for the purpose of trying the effect upon the blood, of shutting off the air from the lungs, when the animal died after a faint struggle.

In five minutes after, the stomach was cut out and put under a stream of water to wash it well. The lake colour still remained in the whole mucous coat from the residence of red blood in the capillary system. At the place where the corrosive sublimate was applied, *there were irregular, oblong, red blotches of two or three lines broad.* The mucous coat had indeed this variety of hue in other places also, but not so deep. In one part, there was a line of petechial spots, half an inch or three quarters in length, from half a line to a line in diameter, each resembling in colour the red blotches.

Observation 4th.—Acute gastritis and peritonitis. Harriet Derrickson, an African, aged twenty-six years, was received near the term of pregnancy into the Alms-house, July 13th, 1827, after a recent confinement in prison. On the preceding day she had got wet,

which produced a pain in the right hypochondrium—she was relieved by immediate bleeding.

July 13*th.*—Her pulse was rapid and febrile, and skin rather above natural heat, but the symptoms were generally mild, and not alarming. She was ordered a dose of Epsom salts, and barley water for common drink.

July 14*th.*—Eye slightly sallow, tongue inclined to dryness, with dark fur at base, costiveness, skin of common temperature and moist, pulse rather tense and rapid. In the afternoon there was a violent pain over the whole head, which was rendered still more severe upon her stooping. Vertigo; thirst; loss of appetite; pains in the limbs. A dose of Seidlitz powders, and cold applications to her head were prescribed.

July 15*th.*—Tongue unchanged, thirsty still, skin hot, violent pain in the right side, eyes yellow, breathing hurried, pulse rapid, not strong. Treatment continued, with the addition of cups to the right hypochondrium.

July 16*th.*—She miscarried of a dead child to day at 6 A. M. with the loss of but very little blood, but her strength was almost exhausted. Her skin continued hot and dry, her tongue dry; stupidity. The symptoms continued to increase during the day; twenty leeches were applied to the temples, and forty to the epigastrium. At 4 P. M. a saline mixture which she had taken in the morning, brought away some natural evacuations, but the skin continued excessively hot, the pulse rapid, without tension, and compressible; the tongue still furred with red apex and edges, the sense of pain in the head had diminished much, but there was great tenderness of the epigastric and hypochondriac regions. A blister was applied to her side, sinapisms to her ankles, and fifteen drops of spirit of turpentine were directed every hour.

July 17*th.*—Almost entire insensibility, eyes of a golden colour, pulse very feeble, soreness of flesh, restlessness and moaning, spirit of turpentine increased in the afternoon to ʒij. every hour. She died at 6½ P. M.

This case was not treated by myself—the notes of it so far, were communicated by a most zealous and intelligent student of the house, Dr. Ashmead.

Autopsy, eighteen hours after death, by Drs. Hodge, Ashmead and myself. We found the internal face of the uterus lined with red blood, which had blended with its ragged surface; clots of blood were in the uterine orifices of the uterine veins, and could be readily picked out. There had been no undue hæmorrhage or lochial discharge.

The capillaries of the peritoneum, especially at the lower part of the abdomen, were distended with blood, and produced, here and there, rose-coloured patches. The peritoneal covering of the uterus seemed to have exceeded other parts in the intenseness of its disease, and had beneath it several patches of from six to twelve lines each of ecchymosed blood.

The stomach presented a degree of inflammation, over its whole mucous coat, not often surpassed even in yellow fever. Some inches square of its middle were almost in a state of sphacelation from the congestion and extravasation of red blood. Small clots of black blood were found among the contents of the stomach, but there was no black vomit. (See Pl. I. fig. 5.)

The following case, with the appropriate drawing, will serve to illustrate the appearance of the mucous membrane of the stomach, after an inflammation of two or three weeks.

Observation 5th.—Chronic Gastritis.—Women's Surgical Ward, Alms-house.—Mary M'Graw, aged 28, moderately corpulent, common stature, lymphatic temperament, habits of intemperance, was admitted May 10th, 1827, for a fracture of the neck of the acromion scapulæ, destruction of the acromio-clavicular articulation, and an extensive laceration and injury to the shoulder joint, manifested by the extreme facility with which it could be thrown out of place and restored again. The account she gave was, that two years ago she fell into a ditch, upon which occasion she produced the injury mentioned, and also broke the os humeri about the lower end of the bicipital groove. The os humeri was cured of its fracture, by the attention of a surgeon, but the shoulder remained in the state described. She afterwards continued to do her ordinary work, till last January, when she began to suffer violent pain in the affected shoulder, and subsequently lost the use of her arm.

Without very sanguine hopes of the success of the treatment, I yet determined, as there was not much probability of the individual being made more helpless by the operation, to try the effects of a seton in producing a reunion of the broken acromion and of the acromio-clavicular articulation. The patient agreed to the proposal, and May 29th was fixed for its execution, but owing to her being feverish and unwell on that day, it was postponed to the next prescribing day.

June 1st.—The patient seeming sufficiently well, I passed a seton through the acromio-clavicular articulation, and another through the fractured neck of the acromion. The patient being exposed in returning through the yard to her ward, was seized directly afterwards with a chill, which lasted half an hour and was succeeded by fever.

The same night, or the succeeding, was attended with a storm of wind and rain. An unruly patient, in the same ward, threw up the window at the head of M'Graw's bed, while she was asleep, and left it open.

June 2*d.*—Chill at 10 A. M. followed by fever, head-ache, bad taste. Venesection ℥vii. ℞. Sulph. Magnes. ℥ss.—Carb. Magnes. ʒss. M. Ft. Haustus.

June 3*d.*—Renewal of symptoms of preceding day. Seidlitz powder, ℞. Sal. nit. ʒij., ant. tart. gr. i., aq. ℥viii. A table-spoonful every hour during fever. This mixture was discontinued after a few doses, from its producing too much nausea.

June 4*th.*—Pain in the epigastrium. Skin cool, pulse natural, tongue slightly furred, bad taste, restlessness. Shoulder manifests inflammation, and discharges pus from the setons. Desault's bandage applied. The symptoms continued with but little variety till the 10th. A mild febrifuge treatment was followed.

June 10*th.*—Pulse full, head-ache, face flushed, bilious vomiting, great tenderness in epigastrium—forty leeches to epigastrium—sodaic powder.

June 12*th.*—Tenderness of epigastrium diminished much, but vomiting continues at intervals. Skin cold and clammy, countenance distressed, bowels too loose. No sleep last night. Large discharge from shoulder. Lime water and milk. Cretaceous mixture.

June 14*th.*—Skin hot and dry. Tongue dry and furred. Stomach still out of order. Some tenderness in epigastrium. Blister to epigastrium. Ptisane of sal. nitri.

June 15*th.*—Stomach still irritable, tongue brown, alvine evacuations green. Tenderness in epigastrium. Fifteen leeches to epigastric region. Calomel half a grain every two hours.

June 16*th.*—Symptoms the same. Discontinue calomel. Saline mixture.

June 18*th.*—Severe chill, which lasted several hours, skin cold and clammy, frothing at mouth, extremities cold, countenance cadaverous. Hot bricks to feet and trunk. Hot lemonade.

June 19*th.*—Sinking still. Skin polished, pulse small and feeble, tongue dry and brown, extremities cold, especially the arms. Extreme pain in epigastrium on pressure; alvine discharges sometimes green and sometimes yellow. Blister to abdomen. Volatile julep ʒss. every two hours. Wine panada. Garlic poultice to soles of feet.

June 20*th.*—Symptoms continue. Treatment continued.

June 21*st.*—Died.

Autopsy.—Abdomen. The peritoneal surface of this cavity and of its viscera, universally of a clear white pearl colour, and destitute of adhesions.

Stomach. Moderately distended with flatus and contained the last articles of medicine and of nourishment. Its mucous coat for the most part of a white colour, and destitute of injected vessels; yet in the cardiac half, particularly the cul de sac, many of the large veins were occupied with blood, and led to blotches of blood now almost removed; but which were yet sufficiently obvious when the part was held between the eye and a window; mucous coat in left half so softened that it could be readily scraped away with the finger.

Intestines healthy, light coloured, and diaphanous, excepting the duodenum, the internal coat of which was much injected, hardened, thickened, and with much less appearance of valvulæ conniventes than usual.

Liver of a brownish yellow colour, as in intemperate persons, somewhat indurated, and had on its upper surface a hydatid the size of a nutmeg.

Spleen natural, but larger than usual.

Pancreas white, and much indurated.

Uterus and its appendages, healthy.

The shoulder joint had been completely ruined by the original accident, its capsular ligament being torn up all around, and scarce a vestige of it left. The long head of biceps broken, insertion of supra spinatus detached, and head of bone next to deltoides could be thrown about in any direction. The articular cartilages of both bones had been absorbed, and the head of the humerus flattened. A new cavity on the posterior edge of the old glenoid had began to be formed.

Acromion broken at neck—acromio-clavicular articulation destroyed; either the end of the clavicle, or an ossified inter-articular cartilage was in the place of the latter joint.

The seton in passing through the acromio-clavicular articulation, had been introduced into the cavity made by the lacerated state of the capsule of the shoulder joint.

This case, in which there was unequivocally marked gastric irritation, proves, that when an acute inflammation of the stomach has persisted for some days, though it terminates in death, no very great redness of the internal membrane may be manifest, and consequently that it is impossible to estimate the state of irritation of an organ during life, solely by the quantity of blood left in it after death. Dying seems to have the effect of concentrating more and more towards the heart, the vital powers, and the fluids, or in other words,

withdrawing them from the circumference to the centre; in the same way that a prudent general, on finding his outposts too much extended for the size of his army, will contract them more and more, as his force diminishes by battle and disease. See Pl. I. fig. 6.

In speaking with Dr. Physick, on the affections of the stomach, he told me that his experience led him to think that the highest grades of its irritation were attended neither by pain nor vomiting. The state of inflammation is so exalted, that its effects approximate those of the most deleterious poisons which cause sudden death without local pain, fever, or any very sensible derangement of the functions, except mere weakness and a sense of illness. The following instance will illustrate this:

Observation 6th. Acute Gastritis.—Henry Turner, a black man, aged fifty-five, assistant in the apothecaries shop, at the Alms-house, after an apparently slight indisposition of a few days, which seemed to require rest rather than any thing else, while sitting up in his bed, suddenly expired almost without a struggle, May 4th, 1827. On dissection, twenty-four hours afterwards, the stomach was found of middle size, thick and dense, its mucous coat thrown into numerous, well-marked, elevated rugæ, and almost universally of a deep arterial red; the red globules of blood were extravasated in numerous spots and blotches in the thickness of the mucous coat and along the summits of the rugæ. This was a patient of Dr. Hodge, and I witnessed the dissection by chance. I declared unhesitatingly that the disease was an exasperated inflammation of the stomach, but owing to the want of an assignable cause for it, as well as the want of appropriate symptoms during life, the opinion was not very readily acquiesced in. In a few days afterwards it was ascertained through Mr. Marks, the apothecary at the Alms-house, that Turner had been taking private draughts from the bottle of Hoffman's Anodyne; at least, the quantity missing, could be accounted for in no other way.

Observation 7th. Chronic Peritonitis and Gastro-enteritis.—Alms-house, July 26, 1827. Examination twelve hours after death.

John Neaman, aged seventy-seven, has been for two years a resident of this house. For the last nine weeks has experienced a want of appetite, a sense of fulness over the abdomen, and pain in that region, but not so severe as to make him complain, or disquiet him much. Has had no diarrhœa, no vomiting, and no fever which called the attention of persons around. Eight days ago the little food which he was in the habit of taking, produced such a sense of fullness and distress that he determined to take no more, or at least the smallest possible quantity, since then he has taken a little bread, and now and

then a spoonful of milk. His complaints being obscure, there has been no medical treatment within those eight days, and scarcely any before. At a distant time, which is not precisely remembered, some tincture of bark was administered by one of the young men of the house. He died seemingly from exhaustion.

Exterior habit. Skin pallid as usual after death. Marasmus not exceeding that common at his time of life.

Abdomen. Peritoneum rough, with universal small miliary bodies, resembling tubercles; thickened somewhat by a coating of coagulating lymph, continuous with the tubercles. Peritoneum, on abdominal muscles and also on diaphragm, interspersed with patches of red blood; small coagula of blood adhering to its interior in many places—and abundant points of the same, as if from ruptured vessels; its cavity contained about three quarts of fluid, half serum and half blood, blended; coagula of blood floating in this mixture. Mesentery studded at distant intervals with these small points of blood.

Stomach. Exterior or peritoneal aspect, pallid and healthy. Internal condition; contained no food, and a little mucus tinged with bile; cardiac termination of mucous coat of œsophagus of a deep red, from distinctly injected vessels; the whole mucous coat interspersed at somewhat distant intervals with small black spots of extravasated blood from half a line to one line in diameter. For three inches around the pyloric orifice, these spots were more abundant and larger.

Small intestine. Mucous coat healthy, but the peritoneal coat of the colour of lampblack in many parts, and more or less of a sooty hue in its whole length.

Large intestine. Exterior or peritoneal face healthy, but dull from the disorganization beneath it. Mucous coat covered with black patches of blood extravasated in its thickness and beneath it; it resembled very much the spotted appearance of some of the sea shells, and contained a small quantity of hardened fæces. Small miliary bodies like those on the peritoneum abounding in it, but I could not distinguish whether they were mucous glands, or such tubercles as existed on the peritoneum.

Liver. Small and flabby.

Spleen. Natural.

Thorax. Lungs healthy, a slight manifestation at very distant intervals on the pleura, of the same sort of action that prevailed in peritoneum—but no effusion except of serum in a small quantity which might have occurred after death.

Head not examined. See Pl. I. figs. 7, 8, 9.

The following are examples that redness is not found invariably in those exalted irritations of the stomach producing immediate death.

Observation 8th, Jan. 28th, 1827. *Gastric Irritation.*—The daughter, aged eight months, of Mrs. A. D. without previous indisposition, and while playing in apparently excellent health on the lap of her aunt, was taken with a sudden spasm, and died instantly. This occurred after a hearty draught of cow's milk, on which the child was accustomed to feed.

The day following I made an examination, twenty-four hours after death, with Dr. JAMES, the family physician, and the following appearances were presented:—

Head. The flat bones much tinged with congested blood. The veins of the pia mater turgid. Serum under tunica arachnoidea; a drachm of serum in the right ventricle of the brain.

Thorax. Every thing natural.

Abdomen. About one gill of a cheese-like coagulum of milk in the stomach. The serous part had been continually running out of the mouth and nostrils since the death of the child, so as to require the constant use of cloths to soak it up, the quantity, therefore, could not be rigidly estimated, but probably did not fall short of two gills. *The mucous coat of the stomach was not vascular, but of a pearl colour.*

All the mesenteric glands were very much enlarged, but had nothing of a scrofulous consistence or texture.

The child, owing to the ill-health of the mother, had been weaned at the age of one month, and brought up on cow's milk. That the coagulum formed from the latter was indigestible perhaps from the quantity, is proved by the fact, that pieces of it tinged slightly with bile, were found in the lower part of the jejunum. It is pretty clear in this case, that the undue quantity of coagulum in the stomach was the cause of death.

Observation 9th, March 29th, 1826. *Gastric Irritation.*—Yesterday the infant daughter, aged ten months, of Mr. W. H. was seized, in a short time after eating half a table-spoonful of rice pudding, with convulsions. The insensibility was complete, and the spasm universal; respiration was carried on with the greatest difficulty, irregularity, and interruption. This was at half past four o'clock, P. M. Happening to pass the house, almost at that instant, my assistance was requested; in a few minutes, Drs. HODGE and GRIFFITH arrived.

A warm bath was immediately resorted to. Three grains of tartar emetic were dissolved in a wine-glassful of water, and administered by the tea-spoonful, every five or ten minutes. The attempt to raise a

vein in the arm being ineffectual, I opened on the right side of the head, three superficial veins, and on the left side two, along with a branch of the temporal artery. From these several openings, about three and a half ounces of blood were drawn. About three-fourths of an hour were thus consumed, when the convulsions ceased. As the infant was teething, the gums were then cut with a lancet.

The child was an unusually fine one; had to the moment of illness enjoyed most excellent health, and had, indeed, been out on a visit to its friends that very morning. The indication seemed, therefore, sufficiently marked, that the rice pudding, along with a prune which had been eaten in the morning, was the cause of the convulsions, and that these matters, if possible, should be expelled from the stomach.

As, notwithstanding the cessation of the convulsions, the insensibility and difficult respiration still remained without much mitigation, about twenty-five grains of pulv. ipecac. in three tea-spoonfuls of brandy, were administered in divided doses, at small intervals of time. This not producing the desired effect, a tea-spoonful of powdered mustard was given by portions, which also failing, twelve grains of sulphate of zinc were next given in divisions. This also failing, we next resorted to tickling the fauces with the finger, and to the introduction of a feather down the œsophagus, almost to the cardiac orifice of the stomach, some five or six times; still there was no vomiting induced. These several trials occupied until 8 P. M. when the child revived very much, and was able to sit up.

It should also be mentioned that sinapisms had been, during our efforts, applied to the soles of the feet and to the epigastrium; and that two or three injections of spirit of turpentine had been administered, with the effect of purging as often.

About 10 o'clock, P. M. the infant seemed to recognize persons, smiled on being addressed in a soothing, playful manner, and afforded a prospect of recovery. At half past twelve o'clock at night, after a slight convulsion, it died.

Autopsy, seventeen hours after death, the weather being moderate, and no putrefaction.

Head. Vessels of pia mater so congested with blood as to be almost apoplectic. Brain congested also.

Abdomen. Stomach flaccid and of the middle size, contained the rice pudding undigested, with a small part of the skin of a prune; its mucous membrane of a light pink colour. The mesenteric glands were enlarged and numerous: the child had been fed occasionally on cow's milk.

Dr. Physick informed me that he had saved a child, affected in a

similar way, from eating a piece of pear. During the prevalence of the convulsions, the child not being able to swallow, a large quantity of tart. emetic and ipecacuanha was injected, by a syringe, into the stomach, through a catheter introduced down the throat; the piece of pear was thrown up by vomiting, and the child saved. He also told me that Mr. L. once lay in a stupor for several hours, from swallowing some article of food extremely difficult to digest, he also was relieved by its expulsion.

Observation 10*th. Softening of the Stomach.*—In the summer of 1825, I dissected, for Dr. Otto, an infant child, (about two years old,) of Mrs. S. S. who was unwell for a week, without there being any well marked symptoms of the nature of its disease. I found the left extremity of the stomach disorganized in all its coats, having been reduced to a light mahogany coloured and pulpy state, about the consistence of a piece of glue soaked in cold water for twenty-four hours. Having no suspicion at the moment of such a state of the organ, I lacerated it, inadvertently, while only using a common force in drawing it upwards for examination. There was no undue redness in the mucous coat.

The brain of this child was large and somewhat congested, but not to a remarkable degree.

Observation 11*th. Softening of the Stomach.*—Dr. La R. of this city, lost a child, in 1826, about four weeks old, in whom I found the stomach in a similar state of dissolution or softening. There had been, however, much pain in his infant, and flatulent tension of the abdomen.

These observations upon the stomachs of children, illustrate sufficiently the fact, that the most extreme irritations of the stomach may exist during life, and may even be fatal, but yet not be manifested after death by unusual redness of the tissues affected. It would be indeed unphilosophical, and inconsistent with pathological observations on other parts, to exact from the stomach an invariable manifestation of disease, by redness and injection of its mucous surface after death. Let the redness of the skin in erysipelas be ever so strong during life, it frequently disappears wholly, by the retreat of the blood from its capillaries during death. Measles are similar in this respect, and the fact already mentioned is very worthy of attention, that if a fine injection be thrown into a subject who has died at the height of the eruption, the vessels originally dilated by the irritation, manifest themselves by the greater quantity of injecting matter they receive; or in other words, the eruption may be renewed after death, as I have satisfactorily ascertained by experiment. If any conjec-

ture could be hazarded on these points, we are disposed to believe that during the process of death, the vitality of parts in a state of inflammation is frequently so far diminished that they no longer have the power of attracting the fluids in undue quantity to them, consequently their redness disappears.

Acute inflammation of mucous tissues generally only thickens inconsiderably the part affected. It is attended by an increased secretion of mucus, of serum, of fibrino-mucous matter; and even an exhalation of red blood, from the blood-vessels being so extremely superficial. We see continually these phenomena going on in inflammation of the Schneiderian membrane and in colitis.

It has been seen that if an acute inflammation of the gastro-intestinal mucous membrane does not kill in its early stages, the injection with red blood is frequently by no means so great as it would have been in the case of an earlier death, and the changes which I have generally observed, are as follow:—The stomach and bowels assume a dirty yellow or liquorice colour, the stomach presents internally small blotches of red at intervals, and frequently are found small filaments of coagulated blood adhering to the mucous coat of the stomach, seemingly at the orifices of the vessels from which they were discharged. The veins of the bowels are either partially or generally filled with blood. The intestinal mucus is abundant, adheres closely, and is tinged yellow by the bile. The mucous membrane of the stomach is easily pealed or scraped off by the finger nail. The brain in this state most frequently exhibits marks of congestion, and with some inflammation of its meninges. The eyes and skin are yellow. In the skin there are apt to be left blotches of red blood, resembling purpura.

Yellow Fever.—In my notes of dissections, performed on four yellow fever patients, in the year 1820, I find the following remarks. In a female patient, aged forty, whose period of the disease I did not learn, the stomach contained a gill of black vomit, was of a natural thickness and texture, and presented over its whole mucous coat in different regions, patches or blotches of extravasated blood. In a seaman belonging to the brig Martha, who had been sick at least nine or ten days, the stomach contained also black vomit, and was beset with small red points and spots of ecchymosed blood. In a third patient, a man aged forty, who complained slightly in the morning of one day, and was dead the next at seven o'clock, A. M. I found the stomach extensively ecchymosed in its mucous coat, and its veins distended with blood; the black vomit was in great abundance in the stomach and intestines. In the fourth patient, a girl aged fourteen,

who died on the fourth day of the disease, the mucous coat of the stomach and small intestine did not present the appearance of ecchymosis, but merely a minute arborescence of its veins.

Observation 12*th.* *Acute Gastritis.*—During the month of July of the year 1826, I lost a patient, Jno. Henderson, aged about sixty, from a violent remittent fever of about eight days duration, attended with great prostration of strength, tenderness in the epigastrium, irritability of stomach, high fever with coma and occasional delirium; a saffron-coloured skin and black tongue attended the last days of his disease. I examined him in the presence of Drs. Hodge and La Roche; the peritoneal surface of the abdomen and of its viscera we found healthy, but the mucous coat of the stomach presented in its cardiac portion a large motley patch of ecchymosed blood, as big as the palm of my hand; it also presented smaller patches of ecchymosis in other regions. His symptoms were with the exception of black vomit, of such intensity, that his case would, in times of yellow fever, have been set down to that disease.

The same patched appearance sometimes is extended into the intestinal canal.

Observation 13*th.* *May* 30, 1827. *Gastritis.*—I dissected Edward Bloom, aged thirty-eight, a patient in the Alms-house. After a debauched course of life of some continuance, he was brought into the syphilitic ward, for a sloughing ulcer of penis, with mortification of the adjoining skin, without any well marked sympathies, except a general prostration of his intellectual and physical powers; he died in five or six days after his admission. Though there were no prominent gastric symptoms as extreme irritability of stomach, tenderness in the epigastrium, &c. we yet found the left end of the stomach, the jejunum, and the ascending colon in a patched ecchymosed state, with here and there mahogany coloured spots along the intestinal tube, arising from the collection of blood. The yellowish, semi-putrescent tinge which the intestines under such circumstances are apt to have, was also present.

From the liability we are in to confound the redness of the stomach indicative of its inflammation during life, with the redness depending upon an obstruction to the circulation during the agonies of death, a principal object of the preceding pages has been to point out their difference, and to establish the important fact of gastric inflammation in most of those cases where the redness is observed. It is now proved that the redness arising from simple congestion, like the redness from injection, is uniformly diffused, whereas the redness from inflammation is generally partial and in patches, sometimes in

the mucous membrane of the cardiac extremity of the stomach, and sometimes in that of the pyloric extremity.

Simple obstruction to the current of blood during the agonies of death, could never produce such appearances, for if it could, we ought to meet with them invariably. On the contrary, where an obstruction does occur, which I am disposed to believe is very uncommon in natural death, whether this obstruction arises from the liver or from the lungs, the arrest of blood should be manifested by an uniform tinge of red in the organs concerned, and not by patches here and there. Such marks of obstruction should also be more frequently seen and better developed, in cases of enlarged, indurated liver, in consumption, in dropsy of the thorax, and in all cases of obstruction of the lungs.

In concluding these observations, I should do injustice to an artist of uncommon merit and ingenuity, were I to withhold the marked expression of my sense of the invaluable services rendered by Mr. Drayton, in promptly and faithfully executing the drawings of the parts represented in the plate, and in subsequently executing the engravings; I have also to acknowledge the characteristic liberality of the publishers, in freely allowing me the advantage of an unrestrained use of his talents.

ART. II. *On the Functions of the Capsulæ Renales.* By JOHN REDMAN COXE, M. D. Professor of Materia Medica and Pharmacy in the University of Pennsylvania.

IT is now nearly three centuries* since EUSTACHIUS published his book "De renibus," in which, for the first time, the capsulæ renales are pointed out and described. Notwithstanding, however, the long period that has elapsed since their discovery, their use in the animal œconomy still remains a mystery, almost as many offices having been attributed to them, as there have been writers on the subject. It is my intention to point out what I conceive to be their function; and, although, when I first took up its consideration, I believed the opinion I entertain was original; yet, on recurring to our authorities in anatomy, I found that others had conceived a similar idea, though the opinion seems not to have been very zealously maintained, even by the individual who first suggested it; while it had been most powerfully opposed by every other writer. MOLINETTI, who flourished

* In 1563.

about a century and a half since, and Charles Bell, are the only anatomists who seem to have advocated the opinion, that the capsulæ renales, were merely diverticula of blood, from the kidneys, to prevent the secretion of urine in the fœtal state; yet so little have they said to substantiate their opinion, that it appears more like a random thought, than the result of a deliberate and serious reflection.

It being obvious that both in a physiological and pathological point of view, a correct opinion of the functions of any part of the body, is desirable, and must be of practical utility to the physician and surgeon, on many occasions; any attempt to fix the functional character of these bodies, must be considered as advantageous.

The capsulæ renales are almost universal in quadrupeds, whether carniverous or herbiverous—in birds—in cold-blooded reptiles; and perhaps, we may say, generally, in every animal, in whom a renal conformation exists. By consulting Haller's Physiology, 7. p. 286, et sequent. we find that different anatomists have noticed them, in the dog, fox, civet, lion, tyger, bat—the horse, ox, elephant, sheep, goat, stag, hedge-hog, porcupine, mole, dormouse, sow, marmot, and many others—in the serpent, viper, tortoise, &c. and in the eagle, vulture, crow, duck, swallow, &c. Now from this we infer, that what is so universal, must be of some great and general utility; and that any explanation of the functions of these bodies, must indubitably rest, in a great degree on this fact. In man, they have never, that I can learn, been found wanting; nevertheless, anomalies in this respect, may have occurred, although unnoticed. They rarely differ in number, being usually the same as the kidneys themselves. It may, however, be an interesting subject of investigation, whether, in case of a single kidney, more than one capsule exists; or if three or more kidneys are found, an equal number of these capsules are not also present. Bartholine mentions a case in which four were seen by him; though Haller thinks it probable that two of them were only lumbar glands. He tells us also, that Morgagni saw three; and Rhodius, two on the left side. These anomalies are, however, of little comparative importance; and we may venture to affirm, that, except in a few cases of monstrosity, the number of these bodies will always be found equal to that of the kidneys; and this fact serves in some degree to establish their intimate connexion with, or subserviency to those glands, in some period of existence.

I shall enter into the anatomical structure of these organs, so far only as is requisite to elucidate the position I assume, as to their use in the animal economy; referring those who feel an interest in the inquiry to our systems of anatomy for further particulars.

From the general description of all anatomists, we learn that on the upper edge of each kidney, is found a particular body, having some analogy to a gland, but differing therefrom in *no excretory duct having ever been detected.* Its form is very various, and probably dependant on the age of the subject, it having been seen quadrangular, triangular, orbicular, and oval. It is somewhat like the kidney, being larger above, and ending, as some have described it, in a kind of conic figure; all which varieties, as above remarked, are probably owing to the age of the individual in whom they have been examined. What is of greater importance, is, that with very few exceptions, they are always larger in the fœtal than in the adult state; in fact, before birth, they are mostly larger than the kidney itself, but gradually diminish in size, after birth; and in the adult and aged subject, they are very small, when compared with the kidneys themselves.

These organs are uniformly described as being largely supplied with blood-vessels; the arteries, coming from the aorta, and the renal and diaphragmatic arteries; the veins from the vena cava and from the renal and diaphragmatic. Some slight variation is occasionally found; for the vessels are not always alike numerous, nor do they invariably proceed from the same sources.

The interior of these bodies has a narrow, triangular cavity, varying in size, probably from the difference of age; and in colour likewise from the same cause. A granulated or follicular substance usually fills the cavity, which cavity is connected with the veins, as it may be distended by blowing air into those vessels. The capsular vein communicates with the inside of the capsule, like the splenic vein with the cells of the spleen.

In conformation, these bodies are generally more regular, solid, and consistent in the fœtus and young children, than in adults. In old age, they often become flaccid; and are much decayed.

From these data it would seem correct to infer, that, whatever be their use, that use is restricted chiefly to the fœtal state, and that all inquiries as to their physiology must chiefly be limited to that period of life.

Eustachius, their first discoverer, called them glandulæ renibus incumbentus. Bartholine gave them the name of capsulæ atrabilariæ, Casserius that of the renes succenturiati, and Diemerbroeck, glandulæ renales: but all these names, founded on their presumed uses, are manifestly incorrect. The non-existence of an excretory duct, proves them not to be glands within the genuine acceptation of the term; and the uses assigned by different writers to them, not having been proved, the names assumed cannot be considered as well-founded, and ought to be expunged from the systems of anatomy.*

* See note at the end of this essay.

Any person desirous of informing himself fully on the subject of these bodies will find an ample detail in the Dict. des Sciences Medicales, v. 47, p. 412, in which, all that has heretofore been said of them is reported. We learn, that, as before stated, they are much developed in the fœtus; but that, as soon as birth takes place, the descent of the diaphragm in respiration impedes their further growth, and from that time they may be said to diminish in size, whilst that of the kidneys progressively augments. There can, I think, be little doubt that the pressure of the diaphragm upon them, must have a considerable influence in diminishing the flow of blood to them; and thereby compel that fluid to pass in a greater amount to the kidneys, when their functions as diverticula are thus arrested. This serves in a measure, to explain why the use they may have exercised in the fœtal state is no longer required after birth—the blood now passes directly to the kidneys, in larger amount; and vessels, heretofore merely kept pervious, are enlarged, by the cessation of the office of the capsules now no longer required. In this we perceive some analogy with the lungs, through which, undoubtedly, a small portion of blood must flow, to keep those vessels pervious, which, after birth, are destined to circulate the whole sanguineous stream, when the diverticula of the ductus arteriosus and foramen ovale are suspended in their operation.

Molinetti, as I have already stated, considered the renal capsules of use, only to *prevent the secretion of urine* in the fœtus; his luminous conception of the subject seems, however, to have met but little attention; objections, indeed, were raised against his opinion, which appear to me more specious than valid. Thus it has been asserted that the renal capsules ought not to be looked upon as simple receptacles—as there would have been no occasion for their wonderful structure on this account. Certainly this objection, backed by no other proof, than what the author thinks ought to be the case, can scarcely be deemed conclusive. The spleen, in all probability, with a formation equally wonderful, serves some similar purpose in the animal economy.—It has been also affirmed, that it *is certain*, (of which no proof is given,) some secretion is performed in them. Now, if this be the case, it is most extraordinary that no excretory duct has ever been discovered in all the attempts for this purpose; and Haller doubts whether they do secrete a humour peculiar to themselves. No fluid is found in them in the adult state; although in children, and especially in the fœtus, they do contain a small quantity of a yellowish or reddish humour, the remains probably of the blood that passed there. Another objection to Molinetti's opinion, is, that it supposes the fœtus to make no

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water, which it is presumed is overturned by the affirmed discovery of the allantois, by Bidloo. Now I believe this idea, at least as it respects the human fœtus, is no longer maintained; and as it relates to the analysis of the amniotic fluid, we find little to countenance the presence of urine or its constituents, therein, which might be presumed to be mixed with it, through the medium of the urethra. It has also been said, that it could not be conceived, how such small arteries should intercept so great a quantity of blood. To this it may be said, that the arteries, if small, are numerous, and the fœtal pulse is probably infinitely more rapid than after birth. At any rate, it is an objection not established by any fact, and may therefore well be considered as of no force.

Let us, however, consider for a moment a question of fact, viz.: Does the fœtus in utero secrete urine?

Bartholine, speaking of the membranes of the fœtus, adverts to the allantois, (a term derived from the Greek αλλας, signifying a sausage, from its being a sort of elongated vessel, which does not surround the whole fœtus, but is rather like a girdle,) situated between the chorion and amnion, and communicating with the bladder by means of the urachus. Its use, according to Bartholine, is to receive the urine in brutes; for in man, he tells us, it is not present. In man, he adds, the amnion receives the urine, mixed with the sweat. This membrane has however been denied existence even in brutes, by some writers; its existence is nevertheless said to be very manifest in brutes during gestation, (Dict. des Sc. Med. 1. p. 410,) but is with difficulty seen in the human ovum, being only met with from the second to the fourth month of gestation, nor are we sure that it communicates with the bladder. We may moreover add, that some writers have endeavoured to prove, that, even in animals, it is not intended to receive the urine, but that it transmits to the bladder, by the urachus, the fluid it contains, to serve for nourishment to the young individual. We may I think safely set this down as hypothetical, and admit that the particular use of the allantois is altogether unknown. If then the human fœtus wants this receptacle, (which indeed for the mere purpose of receiving the urine, seems altogether unnecessary, in either man or brutes, as the bladder might be presumed adequate,) it should follow, that any urine secreted in the fœtal state, ought to be found either in the bladder, or intermixed with the liquor amnii. We have however no reason to believe that this last is the fact, since the analysis of that fluid by Buniva, Vauquelin, Berzelius, and others, proves sufficiently that all the characters of urine are wanting in it, (see Johnson's Animal Chemistry;) and as it respects the existence of urine in

the bladder, no fluid of any amount has been detected therein. What little has been found, seems indeed to want the requisite of urea and of many of the saline ingredients which are noticed in it after birth. Independently of this too, the amount is far too small for any reasonable views on the subject, founded on calculation. Haller states the quantity of urine discharged by the adult, to be from twenty-eight to sixty-four ounces in the twenty-four hours. Now, if we consider the fœtus as only beginning to secrete it when five months old, it will leave four months or one hundred and twenty days to the period of birth. Suppose we take the moderate quantity of only half an ounce per day, secreted during that space of time. This will be nearly equal to four pounds, which ought to be found in the bladder or in the liquor amnii at birth; but we have stated that analysis gives no evidence of the presence of urine in the last; and instances are recorded in which the urethra was closed at birth, but in which no fluid was present in the bladder. We have, therefore, a right to ask of those who contend for this secretion in the fœtal state, conclusive evidence of the fact, but which we believe cannot be given, nor any satisfactory channel pointed out by which it may have escaped. We may then admit, I think, that in the period of gestation, only so much blood percolates the vessels of the kidney, as will suffice to keep them pervious for their important functions after birth; whilst the full amount which, according to the laws of circulation, would otherwise be conveyed through them, is diverted off, by the renal capsules, and carried immediately back into the vena cava.

Vaughan in his anatomy, 2, p. 132, adverting to this opinion, that the capsules are to be regarded as diverticula in the fœtus, to divert the blood from the kidneys, and lessen the amount of urine, adds, "but if so, why do they remain in adults, and not disappear like other diverticula?" Now what are the diverticula of whose functions as such we are assured? The ductus arteriosus and foramen ovale, are perhaps the only unquestionable ones we are acquainted with, and their vestiges are conspicuous to the latest period. The thymus gland is probably of a like nature, and it never entirely disappears. If the spleen is of a similar character, we find it continuing its functions to the end of life. Is there not however full as much necessity apparently, for a diverticulum for the blood from the kidneys in the fœtal state as from the lungs? Both of these organs seem to come fully into operation only after birth; and of all the uses ascribed to the capsules, not one is found to quadrate with fact, as well as with reason, but that which ascribes to them the functions of diverticula, as a wise provision of nature, to guard the

kidneys from the overflow of blood, which, by the common laws of circulation would otherwise be carried to them. All other uses are incongruous, and entirely hypothetical, with scarcely a solitary fact to give them the slightest credit. As to their continuance in the adult state, notwithstanding their evident and acknowledged decrease, it is very possible, nay probable, that their functions are never absolutely terminated. The numerous instances recorded, of immense amount of urine in the bladder in certain cases of retention, and the surprising instances of long-continued suppression of urine, appear, alike to prove that some diverticulum has been called into operation to arrest the fatal issue of those complaints. If, in cases of retention, the average amount of two pounds may be supposed to be secreted daily, as formerly adverted to, then, in proportion to the number of days during which the disease continues, we ought to find in the bladder an equal number of quarts of that fluid; but is it ever in that amount? Does not nature, here, in order to obviate in a degree the effects of disease, enable the renal capsules to resume their original functions? I think it at least probable. Again, in cases of suppression for days, what becomes of the blood determined to the kidneys, if not conveyed away by some other channel? How could a total suspension of the secretion of urine ensue, the kidneys being found after death in many instances free of disease? Death indeed does not always follow even the most extended cases of this nature, of which the following are a few of many instances on record. La Motte, (Traité complet des Accouch. p. 567,) mentions the complete suppression in a woman of sixty years, for seventeen days. The first discharges on recovery being bloody, but gradually passing to the state of urine. Desault, (Traité des Mal. des voies Urin. p. 32,) says, that in hysteric affections, the suppression has continued for more than forty days. In the Dict. des Sci. Med. 47, p. 429, are several cases—amongst others, one of a patient of fifty years, reported by M. de Claubry, continuing for nine days, and another from Dr. Vieussen, of a little girl, eleven years of age, who had for eighteen months a total suppression, from which she recovered. In both cases, the suppression of so important a secretion, was unaccompanied by those frightful symptoms commonly existing. There is another still more extraordinary case given, of a suppression continuing for seven years, from which the patient recovered, and died many years afterwards of another disease. Now, in all these cases, it is scarcely possible to resist the impression, that the danger was obviated by means of a diverticulum—and if so, what more probable than the resumption of their original functions by the renal capsules.

If more cases of a like character are required, they may be found in the philosophical transactions of Great Britain—especially one of a boy, who never made water, but lived in perfect health to his seventeenth year, a constant diarrhœa attending. This is related by Dr. Richardson, V. 28, p. 167.

Boerhaave had an idea of the urine that it served as a means of expelling the portion of our humours tending to putrefaction, and which is calculated to bring others into the same septic disposition—how far this is correct, I shall not pretend to say; our present views in relation to it, seem to be, that it is intended to convey away the salts introduced into the system, or which are formed by the actions of life. If either view be adopted, we may perceive, why, in the fœtal state, the secretion of urine can scarcely be said to take place, inasmuch as any, then formed, is deficient in the characteristic property of urea, a substance of a very singular nature, and consisting of a predominancy of nitrogen, which is nearly 40 per cent. in amount of that principle. The kidneys may then be regarded as the principal channel for conveying off the nitrogen, as the lungs for carbon, and perhaps the liver for hydrogen; but as this principle does not predominate in the fœtal state, it of course does not require to be then discharged, and the kidneys only take on their perfect functions, when an excess of nitrogen is introduced, requiring elimination, viz. after birth. Of course, all that is requisite in the fœtal state, is merely that the vessels of the kidneys be kept pervious, whilst the excess of blood, carried off by the diverticulum of the renal capsules, finds its way to the mother, and has its azotic portion eliminated through her kidneys.

I shall only add further, that these organs are the seat of disease, as demonstrated by dissection; thus Greiselius found the left capsule, in a man of forty-five years old, of great size; concealing an abscess filled with twelve pounds of putrid sanious matter, which being evacuated, the capsule weighed more than two pounds. Portal mentions a boy of two months, in whom the capsule was filled with a liquor like the blackest ink, and was larger than a pigeon's egg. Blasius mentions a woman of fifty years old, in whom the capsule was equal to the fist, soft, reddish, and filled with black purulent matter, and with much gravel and sand; and Bartholine states the right capsule in a melancholic patient, to have been longer and larger than the spleen, and to have had a double cavity.

Upon the whole, after duly considering the subject, I am more than ever convinced, that no other use can be ascribed to the renal capsules, than that of diverticula in the fœtal state; and that the pro-

bability is, that their functions are never entirely suspended; at least, that on many occasions of disease, they resume in a certain degree their former functions, and thereby co-operate in suspending the fatal issue of many cases, which would otherwise occur. If I am correct in the positions thus advanced, I think all the names by which these organs have been hitherto distinguished, should be abolished, and that of *diverticula urinæ* should be substituted in their place.

NOTE.

Perhaps a succinct account of the various opinions of the uses of these organs, may not be improperly introduced here; that the reader may compare the probabilities of each. *Eustachius*, their discoverer, seems to have acted with uncommon modesty, in not venturing to assign any use to them, that I can find; he merely calls them the renal glands, from their vicinity to the kidneys. *Casserius*, *Bauhin*, and others, were persuaded they aided in the secretion of urine—hence the name of succenturiatæ glandulæ. *Spigelius* supposed them made to fill up the space between the kidneys and diaphragm, to support the stomach in the part above the emulgent veins and arteries; and also to absorb the moisture that sweats from the neighbouring vessels. *Wharton* and *Riolan*, by whom they were named glandulæ ad plexum positæ, gave them that appellation, because they cover the semi-lunar ganglions, and the beginning of the plexus, which the great intercostal nerve forms in the belly; and they thought their sole use was to support these plexuses—considering, that otherwise they would have pressed too much on the emulgent veins. *Sylvius* imagined an acrid juice was separated in the capsules, which, mixed with the blood returning from the kidneys, after the secretion of urine, served to dilute it and excite the action of the vena cava upon it. The elder *Bartholine*, (Gaspard,) having found them filled with a fluid of an obscure brown colour, believed them to be the secretory organ of the atrabilis; and that this humour was taken up by the capsular veins, and carried to the kidneys by means of the renal veins; hence he gave them the name of capsulæ atrabilariæ. Gaspard was unacquainted with the circulation, and is considered excusable in his ideas; but *Thomas*, his son, in defending the opinion, in opposition to his knowledge of the circulation, says, that the atrabilis, thicker and heavier than the blood, might have in the capsules and renal veins, a *retrograde motion* from that of the blood, in order to reach the kidneys—and *Petrucci*, a Roman physician, not much more than half a century past, even affirmed that he had discovered valves in the capsular veins, disposed contrary to those of other veins, and fitted to favour the passage of the atrabilis to the kidneys. Bartholine moreover considered them as separating from the blood, the colouring matter of urine.

Some authors have made them the seat of various passions. *Collins* says their use is to impart a fermentative liquor flowing out of the termination of the nerves, by some direct passages into the body of the glands belonging to the kidneys, to dispose the blood in order to the secretion of the serous and saline parts from the vital liquor. *Kerkringius* ascribed to them a power of secreting a juice fitted to colour and animate the blood. *Valsalva* thought he

had discovered their communication with the testicles, and that they aided in the seminal secretion. *Senac* supposed they secreted the fœtal meconium —and *Van Helmont*, that they secreted a juice endowed with lithontriptic powers, created by his archæus, to prevent the formation of renal calculi. *Lieutaud* viewed them as separating an acrid, penetrating liquor, very fit to prevent the formations of concretions in the vena cava. *Boerhaave* assigned them the function of correcting in the blood that flows from the kidneys, the fluidity of that liquid, impoverished by the loss which the secretion of urine causes. *Thuvry* thinks they serve for almost the same use with the membrana adiposa; straining out a liquor, which by its long stay, becomes oily, then throws it into the veins, whereby the blood, stripped of its fluidity by the secretion of its serous parts recovers its former state, &c. so that they do the same office to the blood of the cava, that the omentum does to that of the porta.—These are probably sufficient, I shall therefore only further mention *Morgagni's* opinion, or rather conjecture, for as such does he offer it, viz. that probably a humour filtered into the cavities, fitted to fill the receptaculum chyli and thoracic duct whilst the infant remained in utero, a time in which these parts receive no chyle from the intestines.

The opinion of Molinetti, which I most cheerfully credit him with, is in my estimation, so very superior to all the above crude and indigested notions, that I shall say no more on the subject. Morgagni's is the only one, I should regard in the least plausible; and I think, had he ascribed to the, (so called,) thymus gland, those functions thus given to the renal capsules, that he would have probably been correct in such an opinion; an opinion I believe not before taken of that organ, but which a frequent reflection on the subject has led me occasionally to adopt, although I am far from laying any stress upon it, and consider it, (as Morgagni did his views of the uses of the capsules,) more in the light of conjecture, than as being founded on any fact of sufficient importance to give it the character of truth, further, than the apparent necessity of some fluid passing through the thoracic duct and receptaculum chyli, in order to keep them pervious for their important office after birth. By an accidental reference to Horner's Anatomy, I think the position assumed of the functions of the capsules is considerably strengthened. In a note, the doctor mentions the presence of this body, in a case of deficiency of the kidney.

Art. III. *Case of Paruria Erratica, or Uroplania.** By Salmon A. Arnold, M. D. of Providence, R. I.

MARIA BRENTON, aged 27 years, of sound constitution, generally enjoyed good health until June, 1820, when she was afflicted with a suppression of the catamenia, accompanied with hæmoptysis. The medical attendants, irregular practitioners, bled her profusely

* Some account of this very singular case, has been published in a Journal of limited circulation.

every other day, and after the system had become greatly debilitated, injudiciously administered emetics, the operation of which was succeeded by a prolapsus uteri, and a total inability to perform the function of urinary excretion. In this state she continued for nearly two years and a half without any alleviation of the disease, though for the most part of the time under the care of respectable physicians. The urine had been drawn off by the catheter, generally every twenty-four hours, but when this was neglected, she often perspired very profusely about the lumbar region.

In September, 1822, soon after I first saw her, the bladder not having been emptied by the catheter for seventy-two hours, the urine found an outlet by the *right ear*, oozing drop by drop, and continued for several hours after the bladder had been emptied. The next day, at five o'clock, P. M. the discharge from the ear again commenced and continued about as long as on the preceding, but a larger quantity was poured out. The fluid was thrown on a heated shovel, and gave out the odour so peculiar to urine, indicating the presence of urea. The discharge was repeated daily for several days, oozing out guttatim, commencing earlier, increasing in quantity, and being discharged in less time; then twice a day, at three and seven o'clock, P. M. varying but very little for some days; then three times a day, at two, nine, and eleven o'clock, P. M. and continuing subsequently four times a day, at ten o'clock, A. M. and four, eight, and eleven o'clock, P. M. increasing gradually in quantity, and being discharged in less time, until a pint was discharged in fifteen minutes in a stream about the size of a crow quill; then becoming more irregular, being discharged every four hours, and increasing in quantity, until eighty ounces were discharged in twenty-four hours. The discharge from the ear was accompanied by a severe pain over the right eye and about the right ear, with a distressing sensation of fulness. The pain commenced early in the morning, and continued to increase in violence until after the discharge from the ear, by which it was relieved.

When the urine was not discharged at the usual period, or much diminished in quantity, the pain and distress were most excruciating, producing delirium, during which confinement was frequently necessary to prevent her from doing violence to her head. Sometimes a deficiency in the discharge would produce delirium, apparently without much pain; she would then laugh, sing, and converse very incoherently, though frequently with an unusual degree of wit and humour. At other times she would be seized with violent spasms, resembling opisthotonos; and after continuing in this situation for a few minutes,

the muscles becoming relaxed, she would heave a deep sigh, and then swoon, and remain in an insensible state for about half an hour, when she would sob, perhaps open her eyes, and after repeatedly sighing would again become insensible. In this condition she would frequently remain for more than twelve hours in succession. Sometimes the spasms would be unaccompanied with swooning; at one time her jaws were firmly closed for twenty-four hours, so that it was impossible to force them open, and at another time they continued closed for more than three days. The swooning would frequently be unaccompanied with spasm, and she would continue insensible for more than twenty-four hours, the pulse imperceptible at the wrist, and respiration only perceptible by the nicest observation. The sight of the right eye was soon destroyed, and frequently that of the left was so impaired that she could not distinguish any object across the room, but the latter is now entirely restored. The hearing of the right ear is much impaired, she cannot distinguish sounds with it, and there is a constant confused noise heard by her like the roaring of a distant water-fall. For a short time previous to the discharge from the ear, there is a very audible noise, resembling that produced by water slowly dropping into a vessel, which may be heard at the distance of several feet. She has no power, excepting by an inclined position of the head, over the discharge, previously to which there is a painful sensation of fulness and a burning heat about the right ear. The next outlet the urine found was by the left ear, a few moments previous to which discharge, a noise is heard similar to that noticed in the right ear: she cannot hear distinctly for ten or fifteen minutes before and after the urine passes off. This discharge is very irregular, sometimes three or four times a week and then is discontinued for months. Soon after the discharge from the left ear, the urine found another outlet by the *left eye*, which commenced weeping in the morning and continued for several hours, producing considerable inflammation. It continued three days and then ceased; a sufficient quantity of the fluid was saved to test its properties; in which, as well as in appearance it did not differ from the discharge from the ear.

In the summer of 1824, it recommenced and continued daily for about six weeks. An account of the quantity of this discharge may be found in the appendix.

On the 10th of March, 1823, urine began to be discharged in great quantities from the *stomach*, unmixed with its contents. The greatest quantity was generally discharged in the morning before taking food, but it was frequently discharged soon after food had been taken,

with which it was often entirely unmixed. This discharge has been more regular than from the left ear and eyes, but less so than from the other outlets.

On the 21st of April, the *right breast* became tense and swollen, with considerable pain, and evidently contained a fluid, a few drops of which oozed from the nipple. The swelling and pain continued about twenty-four hours, and then entirely ceased for about a week, when it again returned, and there was discharged a light yellow fluid resembling urine. On the 29th, one ounce was caught in a nipple shell, which, by analysis, was found to contain urea. This discharge has been very regular up to this time. Urine has been discharged occasionally from the left breast, an account of which may be found in the appendix.

November 20th, 1823, the urine from the breast became milky, having the appearance of milk considerably diluted with water; this continued until December 12th, when it gradually resumed its usual colour.

May 10th, 1823, the abdomen about the hypogastric and umbilical region became violently and spasmodically contracted into hard lumps, and a sharp pain was felt shooting up from the bladder to the umbilicus, around which there was a severe twisting pain; in a few days subsequently a loud noise was heard, similar to that produced by drawing a cork from a bottle, and immediately afterwards urine spirted out from *the navel*, as from a fountain. This discharge has since continued, and has rarely been interrupted for many days. Nature wearied in her irregularities made her last effort, which completed the phenomena of this case, and established a discharge of urine from *the nose*. This discharge commenced on the 30th of July, 1823, oozing in the morning guttatim and increasing in quantity every day until it ran off in a considerable stream. It continued daily for about two months, when it ceased until the summer of 1824, and then again commenced, and continued almost daily for some months, since when, it has entirely ceased. All the fluids discharged were found by analysis to contain urea.

The following is the analysis of the fluid discharged from the right ear, made in New Haven, under the direction of Professor Silliman: "Alkaline sulphates were indicated by muriate of barytes and acetic acid; muriates were detected by nitrate and acetate of silver, and by nitrate of mercury; phosphates were ascertained to exist by the addition of caustic, ammonia, and lime water. Urea was obtained in the usual manner, by evaporating the fluid, and redissolving in al-

cohol, and again evaporating." The urine discharged from the ear was, during the first six months, hotter than that from the bladder, producing by its heat pain in the external ear. The urine from the bladder turned black when not drawn off at the usual period, and deposited a sediment resembling black sand. Sometimes after this black sediment was precipitated, the fluid would be of a dingy yellow colour, at other times it would be as black as ink. The urine from the bladder was frequently of a very high colour before it turned black, but often turned black when it was as perfectly limpid as spring water, and on several occasions it has been noticed that when it was most limpid the largest quantity of black sediment was precipitated.

The discharges from the other outlets have, occasionally, all turned black; a more particular account of which may be found in the appendix. They differ, however, in one respect from the discharge from the bladder, since from the bladder it has never come off black, while it has from all the other outlets. This changing of colours in all the discharges from the different outlets, at the same time, is a most convincing proof of the identity of the fluids discharged.

Since the obstruction of the catamenia, there has been a discharge of blood supposed to be vicarious: it has generally come on every five or eight weeks, sometimes at the regular period. For the first two years there was a discharge of blood, occasionally from the stomach and lungs; from the right and left ear, oftener from the left; from the right and left breast, more frequently from the left; from the navel and from the nose. From the nose and the right ear, it has generally been mixed with urine, nearly three-fourths urine; from the left ear with about equal parts urine and blood; from the stomach and lungs, with the contents of the stomach and the secretions of the fauces; from the left breast and navel it has generally been unmixed with any other fluid. It was frequently fœtid—the colour always dark—it sometimes, though not generally, coagulates. When the urine was not drawn from the bladder for forty-eight hours, or longer, the quantity found in it was always less than when drawn off every twenty-four hours. Sometimes when the urine was not drawn off from the bladder for seventy-two hours, it would be found to contain only one or two ounces. From which I was induced to believe that the discharge from the bladder was almost entirely useless, and that the functions of the system might be performed with very little disturbance, without the excretory office of the bladder. Accordingly I omitted to draw off the urine for seven days, when three ounces only were found in the bladder, during which period,

the discharges from all the other outlets were increased, and her health did not appear to have in the least suffered. Both the quantity of fluid drank, and the quantity discharged from all the outlets during the twenty-four hours, was for several days ascertained and the difference found small. When the urine was drawn off from the bladder, two or three times a day, the quantity discharged from all the other outlets, was much decreased, from which I was induced to think that if it should be drawn off every two or three hours, it would be prevented from passing into the system, and being discharged from the other outlets. I therefore introduced an elastic gum catheter, and directed the urine to be drawn off every two hours, but the catheter in half an hour would be filled up with a thick glutinous substance. This was frequently repeated with no better success. Numerous instruments were invented, and when used were all equally unsuccessful. Pessaries of every description and other means to restore the parts to their natural situation, were used, and for a long time continued without any advantage. The quantity of urine discharged from all the outlets was so great, and so much beyond what has been thought possible, that I was apprehensive there might have been some deception—to remove every doubt, I and my friend Dr. Webb, who at my request had occasionally attended her, remained with her four hours alternately, during twenty-four hours, and the quantity discharged during this time was as large as it had been for several days previous to, and after this period. There has never been any doubt that these fluids, which have been proved to be urine, were actually discharged from the ear and the other outlets, since the fact has been proved, day after day, by occular demonstration.

This great disturbance in the system continued to increase for nearly six months, and it was the opinion of all who saw the patient that she could not survive from day to day; after which period it gradually abated, and she is now, when the urine is freely discharged, so much relieved that she is able to walk about her room, and during the summer of 1824, frequently rode out. The discharges from the right ear, the right breast and navel, continue daily, but they are not so great nor so frequent as they were a year since; from the bladder the quantity is as usual; from the stomach, nose, eye, there has for some months been no discharge.

APPENDIX.

A Diary of the Discharges, the appearances and changes in them, together with the most prominent symptoms from the period of the first discharge, until those from all the other outlets were established.

	Bladder.	Right ear.	OBSERVATIONS.
1822.	℥	℥	
Sept. 21	7	4	From the bladder on the 21st turned black, from the ear on the 21st, 22d, and 23d, not measured, but the quantity calculated from wet clothes.
22	16	5	
23	15	7	
24	14	10	Violent pain in the head relieved by a discharge from the ear—pulse 100—skin dry—tongue coated.
25	11	12	Pain increases with sensation of fulness—discharge guttatim—pulse 100.
26	12	13	Pain increases—pulse 100.
27	11	15	Pain very violent—discharge more rapid.
28	12	14	Pain more violent—pulse 120.
29	13	13	Skin dry and hot.
30	12	15	Tongue much coated.
Oct. 1	10	14	Pain more violent—urine from ear very high coloured—discharged in a stream the size of a crow-quill.
2	12	14	Four ounces of urine discharged in five minutes—pain commenced about ten, and increased in violence until five o'clock, when the urine was discharged and head relieved—light extremely painful—can scarcely discern objects with right eye.
3	24	14	Urine by catheter twice—discharge commenced two hours later—in other respects no change.
4	12	13	
5		14	Catheter from unavoidable cause not used.
6	4	17	Catheter used at ten o'clock, after an interval of thirty-six hours, during which thirty-two ounces from ear—and only four ounces from bladder—discharge commenced six hours earlier—from ear and bladder high-coloured—from bladder after standing a few hours turned black.
7	30	15	Catheter used morning and evening—pain in head violent—other symptoms unchanged.
8			Introduced an elastic gum catheter, and directed urine to be drawn off every two or three hours—catheter filled with a thick viscid substance—urine not drawn off every thirty-six hours—complains of urinous taste—face and feet œdematous—urine from bladder turned black as ink, and deposited considerable sediment—pulse 120—symptoms unchanged.
9	16	67	
10			
11	6	24	Witnessed discharge of ten ounces in fifteen minutes.
12	18	33	Commenced guttatim and increased to the size of a crow-quill—from the ear much hotter—higher coloured—urinous odour stronger than from bladder—pulse 120.
13	14	57	Nine ounces discharged in the presence of John Mackie, M. D. and Mr. Webb, student of medicine, in about

	Bladder.	Right ear.	OBSERVATIONS.
1822.	℥	℥	
			half an hour—commenced oozing gradually, increasing to a stream the size of a crow-quill—produced pain from the heat, in which the thermometer rose to 104, and fell to 94 in that drawn from the bladder—from ear higher coloured and stronger urinous odour than from the bladder—less pain in the head.
Oct. 14	14	43	Discharge from ear, ten o'clock, A. M. usual colour, after standing a few hours turned as dark as pale ink—four P. M. a large discharge, usual colour—in about two hours turned a darker colour than that discharged in the morning—eight P. M. eight ounces discharged in presence of Messrs. Fales and Willard, students of medicine, darker than previous discharge, nearly as black as the black urine from bladder—from bladder turned black after standing a few hours and deposited a sediment resembling black sand—pain and heat in head most excruciating—eyes inflamed—pupils dilated—hearing of right ear impaired—pulse 140—skin dry—tongue coated—very thirsty—drinks freely.
15	13	40	From ear dark coloured—sediment resembling black sand is deposited—proportion of sediment one-third—other symptoms same as yesterday.
16	14	48	From ear muddy, but lighter than yesterday—from bladder turned black upon standing a few hours—pulse 140—in great distress.
17	16	64	From ear turbid, nearly as light as natural—pain in head—eyes a little relieved—from bladder natural colour.
18	12	62	From ear straw colour—from bladder same; vomited six ounces of blood—dark coloured—soon coagulated.
19	20	65	By catheter twice—witnessed discharge of twelve ounces from ear in five minutes, previously to which the bladder was emptied.
20	35	44	By catheter three times—pain in head increases—eyes more painful—is wild and delirious—pulse 140—tongue coated and dry.
21	20	45	From bladder twice—symptoms unchanged.
22	17	64	By catheter twice.
23	16	70	By catheter twice—respiration laborious, other symptoms unchanged.
24	15	48	By catheter twice—respiration more laborious—head more painful—right side is numb previously to discharge from ear, by which relieved.
25	16	63	By catheter twice.
26	15	80	Pain in head relieved—other symptoms same.
27	20	50	Symptoms relieve
28	8	80	
29	16	64	
30	14	50	
31	16	48	
Nov. 1	12	45	
2	16	40	

	Bladder.	Right ear.	OBSERVATIONS.
1822.	℥	℥	
Nov. 3	12	8	Convulsed throughout the day—spasms very violent.
4	6	12	Spasms violent—respiration laborious—palpitation of heart—symptoms indicating hydrothorax.
5	14	10	Spasms and other symptoms continue—pulse 140—skin hot and dry.
6	4	12	
7	16	8	Spasms continue—other symptoms relieved.
8	14	18	Spasms relieved.
9	14		Spasms very violent—pain excruciating—accompanied by sensation of fulness and weight—palpitation.
10	16		Spasms more violent—pain and sensation of fulness continue—respiration laborious—palpitation increases—eyes very painful—pulse 150.
11	15	12	Pain in head relieved.
12	14	10	Less pain in head—difficulty of respiration increases.
13	14		Pain in head more violent, accompanied by delirium.
14	6		Pain in head excruciating—delirium increases.
15	12	16	Pain in head and delirium continue.
16	14	8	
17	15	10	Delirium relieved in some degree after discharge from ear—pain in head and other symptoms continue.
18	12	1	Delirium relieved—spasms increase.
19	14	8	
20	14	24	Spasms relieved—vomited four ounces of blood—dark colour.
21	9	15	From Nov. 21st to Dec. 7th, from unavoidable causes no history of case.
Dec. 7	8		Violent pain in head with sensation of fulness—and burning heat about right ear delirium—skin hot and dry—tongue much coated—pulse 140.
8	10		Pain in head increases—other symptoms continue.
9	20		
10	1		Pain in head excruciating—other symptoms continue.
11	20	16	Pain in head and delirium in some degree relieved.
12	14		Delirium increases—pain in head more violent.
13	16		
14	10	12	Delirium continues—less pain in head.
15	12	8	
			From the 15th to 22d, no discharge from ear—from bladder rather more than usual quantity, not measured—delirium violent—pain in head most excruciating with sensation of fulness—burning heat about right ear—pulse 150—palpitation—skin dry—tongue coated.
22	12	8	Pain in head relieved after discharge from ear—other symptoms same.
23	14	8	
24	10	24	
25	7	8	
26	10		Pain in head more violent.
27	12	4	
			From 27th to 31st of December, no discharge from ear—increased quantity from bladder—increased delirium—violent pain in head—pulse 150.

	Bladder.	Right ear.	OBSERVATIONS.
1823.	℥	℥	
Jan. 1	12	32	Delirium and pain in head relieved—urine from ear coloured with blood—on 3d, catheter not used—on 4th, urine from bladder black.
2	14	32	
3		52	
4	2	50	
5	3	26	Pain—delirium—palpitation—and all the symptoms entirely relieved—pulse 100.
6	8	66	
7	12	60	
8	12	47	
9	8	50	
10	12	6	Pain in head increases—spasm and swooning alternately.
11	8	12	Pain in head relieved—spasm and swooning not so frequent.
12	16	30	
13	12	39	
14	14	25	Urine discharged from left ear—about half an ounce saved—in odour and colour does not differ from discharge from right ear.
15	12	8	Pain in head more violent—swooning frequent—pulse 140.
16	10	8	Swooned ten times—sometimes remains insensible more than an hour.
17	8	12	Pulse 120—swooning not so frequent, nor so long insensible.
18	2	20	
19		12	
20	8	7	Urine from bladder turned black—swooning relieved.
21			Delirium from 21st to 25th so wild and raving as to suffer no one to come near her—on 24th no urine from ear, though the usual sensation of heat and fulness generally felt previously to the discharge—urine discharged from left eye guttatim about two hours in the morning.
22			
23			
24			
25	16	32	From ear when discharged, as black as pale ink—from bladder turned black after two hours—urine continues oozing from eye in morning—pain in head relieved—delirium continues—is very humorous—laughs and sings and talks incoherently—pulse 120.
26	16	32	More rational—swooning returns, succeeded by unusual numbness except in the fingers—pain changes from vertex and over the right eye to back of the head—urine continues weeping from eye—one ounce saved, does not differ from discharge from ear—pulse 120.
27	16	30	After swooning continued insensible for an hour—not the least sensation for several hours excepting about the windpipe—urine from eye ceased—pulse 121—pain in head continues.
28	12	28	Swooning not so frequent, succeeded by numbness of right side.
29	6	32	
30		7	Swooned at ten A. M. and remained insensible until next day at half past ten o'clock, A. M.
31	10	27	From ear turbid—from bladder light inky hue—both turned black—swooning relieved.
Feb. 1	12	24	In evening from ear fourteen ounces in presence of Dr.

	Bladder.	Right ear.	Stomach.	OBSERVATIONS.
1823.	℥	℥	℥	
				Webb and myself, as black as ink—specimens were sent to Dr. Mitchell, New York, and Dr. Gorham, Boston.
Feb. 2	10	20		From ear colour of pale ink—from bladder turbid and turned black.
3		24		From ear turbid—though no urine from bladder,
4		26		yet no distention—from left ear six ounces of
5		30		bloody urine.
6	14			Violent pain in head—scalp tender and painful.
7	8	16		
8	8	12		Head very painful—pulse 140.
9	16	3		
10	8	4		
11		32		
12		28		
13		16		
14		17		
15		20		
16		17		
17		21		Pain in head relieved—pulse 100—urine from
18		8		bladder not measured.
19		16		
20		18		
21		14		
22		20		
23		18		
24		24		
25		18		
26	12	4		Violent pain and sensation of fulness in head.
27	10	6		Insensible—arousing every three or four hours
28	8	11		and immediately swooning—pulse 120.
Mar. 1	12	15		
2	12	18		
3	13	17		
4	12	20		
5	14	20		Swooning relieved—head less painful—pulse 100.
6	12	20		
7	12	21		
8	14	18		
9		14		
10	8	17	16	Urine from stomach, without much nausea, un-
11		16	18	mixed with its contents, colour light yellow— from ear same—pulse 100—not much pain.
12	2		20	From bladder turned back—from stomach light yellow.
13		12	24	From ear deep—from stomach light yellow—discharge from stomach found by analysis to contain urea, and some of the salts found in urine.
14	18			From bladder turned black—pain and sensation of fulness in head.
15		16		Pain continues—urine high coloured.
16	16			From bladder turned black.

	Bladder.	Right ear.	Stomach.	OBSERVATIONS.
1823.	ʒ	ʒ	ʒ	
Mar. 17		6		Spasms commenced at four P. M. and continued until two o'clock, A. M. in the muscles of the jaw, so violent that it was impossible to open the mouth.
18	16	20		Spasms relieved—from bladder black.
19	20	12		
20	18	8	12	Spasms returned.
21	14	16	18	
22	12	12		
23	14	16		Spasms relieved—from stomach mixed with blood.
24	12	18		
25	15	17		
26	12			Violent pain in head and delirium—pulse 120.
27	10	6		
28		16		Pain and delirium continue—pulse 130.
29	16	18	12	From bladder turned black—from other outlets light yellow—pain and delirium relieved—pulse 120.
30		16		
31	10	6	16	From bladder turned black.
Apr. 1	8		16	From stomach black as ink when thrown up.
2	10		8	Violent pain and sensation of fulness in head—delirium—pulse 140—sight of left eye impaired, right entirely destroyed.
3	6	8	16	From stomach and ear turbid, in few hours turned black—sensation of fulness in head—eyes very painful.
4	10	20		
5	12	16	4	
6	12	12		
7	10	16	18	
8	12	18		Pain in head in some degree relieved—eyes very painful—constant nausea accompanied discharge of urine from stomach.
9	20	30		
10	16	27		
11	8	16		
12	12	12	16	
13	7	18		
14			61	From stomach as black as ink when discharged—after which pain in head relieved—constant nausea.
15	6	4		From bladder black.
16	10		40	From stomach black.
17	12	18		Pain in head relieved.
18	8	30	28	From stomach black—from bladder high coloured—turned black in a few hours.
19	20		18	From bladder dark yellow with a reddish cast, turned black after standing a few hours—from stomach light yellow and turned black.
20	16	12	30	From ear usual colour, turned black in six hours—from stomach black—from bladder light straw colour, turned black in four hours—in less pain than she has been since urine was first discharged from ear—pulse 100.
21	20	16	48	From stomach black—from ear and bladder light yellow—from bladder turned black—tension and

	Bladder.	Right ear.	Stomach.	Right breast.	OBSERVATIONS.
1823.	℥	℥	℥	℥	
					swelling in right breast—few drops of a light yellow fluid oozes out.
Apr. 22	24	10	40		Urine from all outlets regained its natural colour—that from stomach has a very fœtid smell and saline taste.
23	14	8	40		
24	22	12	64		From bladder straw colour—from ear pale black—from stomach came off in two portions—first twenty-eight ounces rather darker than natural—turned black after standing a few hours—the other thirty-six ounces of deep black—when discharged, dull pain in head.
25	16	8	64		From bladder deep orange—ear straw coloured—stomach a very deep black.
26	10	14	36		From bladder straw colour—ear little darker hue—stomach pale black—pain in head and delirium.
27	20	8			From bladder lighter than usual—ear deep orange, approaching to red—delirium continues—swooning—and spasms—pain and tension of right breast—few drops ooze from nipple—pulse 120—incubus.
28	18	15	34		From bladder light straw colour—ear dingy yellow—stomach natural colour—while present she put a thick cloth to her breast, in a few minutes was completely soaked with water, which had the smell of urine—when dropped upon a heated shovel threw off the pungent fumes so peculiar to this secretion, indicating the presence of urea.
29	14	16	46	1	From bladder light yellow—ear straw colour—stomach dirty yellow—breast light yellow.
30	16	16	44	7	From bladder and ear straw colour—stomach dirty yellow—breast partly white, and partly of yellowish cast—patient is rational, and complaining of nothing except a disagreeable sickness occasioned by the rank smell of urine from breast.
May 1	16	17	28	12	From bladder and ear straw colour—stomach dingy yellow—discharged considerable from stomach, and complains of gnawing pain.
2	14	16	50	8	From bladder light yellow—ear and stomach dingy yellow—breast three potions—1st. Reddish—2d. Limpid—3d. Considerably bloody, about the colour of currant wine.
3	8	9	32	18	From bladder light yellow—ear, stomach, and breast straw colour.
4	17	16	52	8	From bladder light yellow—rest dark colour.
5	18	17	57	12	
6	16	16	44	12	
7	17		40	13	
8	17	14	40	8	

	Bladder.	Right ear.	Stomach.	Right Breast.	Navel.	OBSERVATIONS.
1823.	℥	℥	℥	℥	℥	
May 9	17		42	13		From bladder straw colour—stomach black—breast dark yellow—and turned black.
10						From unavoidable cause catheter not used.
11						
12						From bladder deep yellow, and turned black—other outlets deep yellow.
13	6	18	28	6		From bladder light colour—turned black—from other outlets black—all deposited black sediment—feet and legs œdematous—urine begins to be discharged from navel.
14	30	13	42	12	10	From bladder dingy yellow—other outlets black—a small discharge from left ear.
15	14	15	76	10	6	From bladder light coloured—ear, stomach and breast black—navel dirty white—while urine is passing the navel she suffers a painful sensation like that which would be produced by a dagger being thrust into the body.
16	18	13	54	4	24	From bladder lemon yellow—ear and stomach dirty yellow—one portion from navel same as yesterday—others light yellow.
17	16	12		13	30	The whole lemon or yellow colour.
18	20	16			32	Colour same as yesterday.
19	5	11	20	16	22	From ear, stomach, and navel, like dirty water—breast black—bladder light yellow—sixteen ounces discharged from left ear.
20	24	16		7	27	From bladder nearly limpid without sediment—it soon turned black, and deposited a thick sediment—ear and breast light colour—navel high coloured and turned black—patient complains of tension and swelling of left breast—this affection differs from the right breast, being attended with a sensation of coldness—in the right is a fluctuation perceived by striking with the fingers—the left is hard and firm—constriction of chest and a saltish taste, which generally precedes the vicarious discharge from the lungs.
21	18	10		13	16	Colour of all discharges light yellow—six ounces of thick dark coloured blood discharged from left breast in morning—pain and sensation of coldness and tension relieved—in evening, in presence of Dr. Webb, discharged a considerable quantity, which in colour resembled the expressed juice of the phytolacca de-

	Bladder.	Right ear.	Stomach.	Right breast.	Navel.	OBSERVATIONS.
1823.	℥	℥	℥	℥	℥	
						candra, and in smell sulphuretted hydrogen given off by putrid eggs.
May 22	20			9	46	Eighteen ounces discharged from left ear, colour deep yellow—six ounces from left breast tinged with blood.
23	20	17	12	14	60	The left breast continues painful—small discharge of reddish cast—from navel very high colour—from bladder limpid—others light yellow—the greater part discharged in morning previously to drinking.
24						} No history of case.
25						
26	12	12	14	8	8	From stomach dark colour.
27		12		8		
28	½	12				From bladder black—ear dark yellow.
29	2			8		Violent pain in head—sensation of swooning—pulse 150—eyes painful.
30	2	12				} Symptoms continue.
31	10	16				
June 1	12	16		12		} Less pain in head.
2	12	30		8		
3	14	32		6	8	} Pain in head and swooning relieved.
4	10	34		6		
5	12	24		6		
6	14	20		8		
7	12	18		7		
8	10	24		9		Eight ounces of urine from left ear mixed with blood.
9	6	20				
10		16				
11	4	18		8		From bladder high coloured—turned black—ear and breast yellow.
12	8	12		8		From the 12th to 25th average quantity from ear twenty ounces—bladder eight ounces—breast six ounces.
						From 25th of June to 2d of July, no discharge from either outlet, though catheter used every day—violent pain in head with sensation of fulness—palpitation—delirium—pulse 150—tongue coated—restless—trembling—swooning.
						From 2d to 20th of July, average quantity from ear eighteen ounces—breast six ounces—bladder five ounces—occasionally discharge from navel.
July 21	4	16		8		Sixteen ounces discharged from left ear—colour as from right.
22	8	28				From right ear mixed with blood—twenty-eight ounces from left ear, light yellow—turned black in three hours.
23	4	18		8	4	From right ear tinged with blood—

	Bladder.	Right ear.	Stomach.	Right breast.	Navel.	Nose.	OBSERVATIONS.
1823.	℥	℥	℥	℥	℥	℥	
							fourteen ounces from left, light yellow.
July 24	14	16		8	12		From right ear mixed with blood—twelve ounces from left, yellow.
25	16	20		8	8		
26	8	16		7			
27		18		8	16		
28	7	48		12	8		From bladder usual colour—turned black.
29	8						Violent spasms.
30		20			16	6	Discharge of urine from nose—spasms less violent.
31	12	32		8	16	10	From bladder black.
Aug. 1	12	24		8	10	12	
2	16	20		8	12	6	
3	16	16		8		16	
4		12		8		16	
5	12	16	15	8		16	From bladder black.
6	16	18	20	8		17	
7		16	22	16		12	
8	4	14	18	16	10	14	From bladder black.
9		28	17	16	12	13	

The following average is calculated from diaries kept by Messrs. Charles Goodwin and Joseph W. Fearing, (Medical students.)

Average quantity from August, 1823, to June, 1824—from bladder, twelve ounces—from right ear, eighteen ounces—from right breast, fifteen ounces—from navel, twenty ounces—from stomach, nose, eye, left ear, and left breast, the discharges have been so irregular that an average has not been calculated.

The following is an extract from the diary kept during the summer of 1824, by Mr. E. W. Greene, student of medicine, which is annexed to show the quantity daily discharged from the left eye.

	Bladder.	Right ear.	Stomach.	Breast.	Navel.	Nose.	Left eye.	OBSERVATIONS.
1824.	℥	℥	℥	℥	℥	℥	℥	
July 20	16	15		12	13	2	2	
21	10	32		36	17	1	1½	
22	16	30		16	10			
23	14	35		20	36	3	3	
24	10	32		8	16	14	13	Health much improved, and when discharges are regular, free from pain.
25	12	30		16	30	16	6	
26	20	46		16	38	16	8	
27	16	52		16	48	17	6	
28	12	40		17	37	16	8	
29	16	47		5	20	16	8	
30	10	54		16	44	16	5	

Art. IV. *Thoughts on the Pathology and Treatment of Icterus or Jaundice.* By N. Chapman, M. D.

THE origin of the technical title of this disease is somewhat curious. It comes from the Greek ἴκτερος, the golden thrush, the colour of the skin in the disease being supposed to resemble the plumage of that bird, and we are told by Pliny, that if the patient looks at the thrush, he is immediately relieved and the bird dies. By the Romans it was denominated *morbus regius*, of which Celsus gives this facetious explanation. Its cure, says he, is to be attempted by exertions of every kind, "lusu, joco, ludis, lacivia, per quæ mens exhilaretur: ob quæ regius morbus dictus videtur." But Pliny tells us it was so called, because those who frequent the courts of kings are most liable to it, which is probable from the voluptuous habits of such society, and which is not wholly irreconcileable with the explanation of Celsus.

The disease approaches in different ways, though as it usually occurs, it is introduced with much languor, inactivity, and depression of spirits, attended by anorexia, head-ache, præcordial uneasiness, considerable disorder of stomach, by flatulence and sour eructations, or nausea, or vomiting, and sometimes cramps, or cholicky pains. These affections so frequently prove the precursors of the disease, that from their existence, its invasion may with some certainty be predicted. The bowels are mostly costive, and when stools are procured they are hard, and of an ash or white colour, indicating the absence of bile. Yet in many instances, there is a profusion of biliary secretion with laxative evacuations. The urine is commonly scanty, and of a deep yellow, or brown, or saffron colour, staining linen dipt in it. There is also a very unpleasant taste of the mouth, with thirst, though the tongue is rarely changed.

As the case advances, the skin, which from the commencement, is dry, and sometimes distressingly itchy, becomes with the adnata variously tinged, the colour appearing first in the eyes, cheeks, neck, and chest, from which points it is progressively spread over the whole superfices of the body. But it is not uniformly diffused. I have seen it restricted to the eyes, and very often embracing only the face. As an anomaly, it is sometimes confined to a longitudinal section of the body. Behrens records a case attended by hemiplegia, where the palsied side was so exclusively icterose, that only one-half of the nose was coloured. Examples, nearly similar, are to be met with in the writings of Valsalva, Etmuller, Dupui, &c. It is most commonly of some modification of yellow, from a pale lemon to the deep-

est orange or saffron hue. Cases, however, are occasionally presented, in which it is green, or of a darker or lurid colour, called green or black jaundice.

Not much is to be met with in the treatises on the disease, relating to this variety; and indeed, the only precise account of it which I have seen, is in a short essay by the late Dr. Baillie, so eminently distinguished by the accuracy of his observations. The substance of what he has communicated on the subject, I shall notice under the several heads of my inquiry. Excepting the difference in the colour of the skin, the symptoms do not essentially vary from those I have detailed. It is said to occur more frequently in the middle and advanced periods of life than at an earlier age, though occasionally it appears in young persons, and oftener in men than women. The progress of the case is also slower, continuing a year or two, or in some instances for many years, and though exempt from violent affections, it steadily pursues its course, till the powers of the constitution are exhausted.

It has happened, however, in some instances, that the three colours have existed in different parts of the same person. Lanzoni had a patient whose face was green to the throat, while the right side of the body was black, and the left yellow. The green and black gradually became yellow, the black again resumed its colour, and finally the whole was yellow. But to return to the history of the ordinary form of the disease.

Tenderness of the epigastrium and right hypochondrium is now complained of, and fever more or less intense, ensues—the pulse being full and strong, and sometimes hobbling and even intermittent. Numerous are the cases, however, in which there is little or no fever, or disturbance of the circulation. The head is not unfrequently affected by pain or fulness, and the disorder of vision incident to the disease is proverbial. My allusion is more particularly to all objects being seen of a lurid or yellowish hue, and which was early observed, as appears from the following lines of Lucretius.

> "Lurida præterea fiunt, quæquomque tuentur
> Arquatei; quia luroris de corpore eorum
> Semina multa fluunt, simulacris obvia rerum,
> Multaque sunt oculis in eorum denique mixta,
> Quæ contage sua palloribus omnia pingunt."

And Shakspeare, no less the poet of nature, declares—

> ——"To the jaundiced eye
> All things seem yellow."

Nor is medical authority wanting to the same effect, as that of Galen, Sydenham, Boerhaave, Van Swieten, Hoffman, &c. who assert, that they have occasionally seen it. But long and generally as the notion has been entertained, it is doubted by some, whether there be any foundation for it, and certainly it is by no means a common occurrence. The fact was, I believe, first denied by Mercurialis, afterwards by Haller—and by Heberden we are told, that of all his icteric patients, he had two only who confessed its existence, and their testimony he distrusted. My own experience is decidedly against it. Whenever it takes place, the humours of the eye must be tinged, and such is a very rare event. But in other respects I have seen the vision much affected by dimness, or becoming double or inverted.

Calculi passing through the ducts of the liver, are productive of spasmodic pain in various degrees of intensity, and which is often attended by vomiting so violent that nothing can be retained. The pain, however, is mostly circumscribed to the lower part of the stomach and duodenum, shooting through to the back, though such is sometimes its vehemence, that there is an inability to lie down, and the sufferer, in a sitting posture, is actually drawn double. After a while, relief is afforded, as is usually believed, by the escape of the calculus, which continues for days, or weeks, or months, or even for years—or in short till a second one gets into the same position. Even admitting this explanation as applicable to some cases with such symptoms, it surely cannot be universally received. Many are the instances in which I have known the pain removed by remedies which could have had no tendency to promote the expulsion of a calculus, and under circumstances precluding absolutely the suspicion of its existence. Most probably here it was induced by spasm of the duct or stomach, or duodenum, independently of any calculous irritation, and so analogous are the two affections, that I know hardly any criteria by which they can be discriminated. Coe, Heberden, and other writers, however, deny that icterus ever arises from spasm.

What I have hitherto said, relates to the more violent and inveterate shapes of the disease. Every practitioner, however, of much experience, has seen it, and with the deepest tinge of the skin, productive of no constitutional disturbance—the appetite, the pulse, the tongue, the secretory and other discharges, continuing healthy, and so little is the individual affected, that he goes about pursuing his ordinary occupations without detriment or inconvenience.

The career of the disease is very different: sometimes speedily submitting to slight remedies, or the spontaneous efforts of nature.

Not a few cases of it, however, prove very indomitable, running on for a length of time, and ending in hydropic effusions, or extreme emaciation with hectic fever, or some cerebral affection, as coma, apoplexy, palsy, or convulsions.

Concerning the remote causes of jaundice, these are many and diversified, or such, at least, have been assigned. Commonly, it is ascribed to the entrance of bile into the circulation, owing to an obstruction of the ducts of the liver, from inspissated bile, or calculi, or spasmodic stricture, or thickening of the lining tissue of the tubes, or heavy hepatic congestions, or by infarctions of the duodenum, or enlarged pancreas, or by pregnancy.

Torpor or paralysis of the ducts, has also been alleged to be a cause, as well as the choaking up of the choledochus by worms. Examples are recorded by Beuth, Lieutaud, and Ludwig, of lumbrici being found either in the ducts or gall bladder of icteric patients, and a preparation of the liver is in the museum of this university,* illustrative of the same fact, taken from an individual who sunk under protracted sufferings, from hepatitis with jaundice. But it is very often brought on by other circumstances. Certain poisons will induce it according to Galen, who saw "a green colour to take place all over the body of one of the emperor's slaves, from the bite of a viper," which has been subsequently confirmed as to the influence of the virus of that reptile by Fontana—and, I have understood the icteric aspect is a very common effect from the bite of the rattlesnake and some other venomous serpents of this country. Lanzoni tells us, that "he observed an icterus occasioned by the bite of a cat, which lasted forty days," and Van Swieten another by that of a dog. Topical yellowness is a pretty uniform effect of the sting of the bee, wasp, hornet, &c. &c. In two instances of poisoning from arsenic which came under my notice, the skin as well as the serous exhalations in the cavities of the body, was deeply tinged with the hue.

Not unfrequently too, the disease proceeds from mental emotions. Either vehement rage or terror has excited it, and it has resulted from petulance, grief, anxiety, and other irritating or depressing moral influences, conformably to the experience of Morgagni, Valsalva, Behrens, Tode, Monro, Drummond, &c. Excessive grief, from the loss of children, caused it in two ladies whom I attended.

Nothing escaped the comprehensive observation of Shakspeare. The following is the reply of the gay Gratiano to the gloomy moralizings of Antonio in the Merchant of Venice.

* University of Pennsylvania.

"Let me play the fool,
With mirth and laughter let old wrinkles come;
And let *my liver* rather heat with wine,
Than my heart cool with mortifying groans.
Why should a man, whose blood is warm within,
Sit like his grandsire cut in alabaster?
Sleeps when he wakes? and creeps into *the jaundice*
By being *peevish.*"———

In the tent scene of Troilus and Cressida, Agamemnon is thus made to address his council of lieutenants, who had become despondent at the protraction of the seige of Troy.

"Princes
What *grief* hath set the *jaundice* on your cheeks?
The ample proposition, that hope makes
In all designs begun on earth below,
Fails in the promised largeness: checks and disasters
Grow in the veins of actions highest record;
As knots, by the conflux of meeting sap
Infect the sound pine, and divert his grain
Tortive and errant from his course of growth."

Concussion from the explosion of a bomb in a room, I have learned from an authentic source, once excited it almost instantaneously. Twice I have witnessed it brought on by ingesta, without spasm, or other gastric uneasiness, except nausea and oppression.

Those who are most subject to the disease are, the sedentary, the indolent, and studious, or whose occupations require a curvature of the body, or the dissipated, and particularly the intemperate and debauched. The hysterical and hypochondriacal are exposed to it, and all such as are harassed by the cares, disappointments, or vexations of life. Criminals are said by Haller to be peculiarly liable to it, whether from confinement or mental inquietude, does not clearly appear.

No age or sex escapes the disease. It is incident to infancy, and every subsequent stage of existence. Generally, however, it is met with in those somewhat advanced in life, and more perhaps in males than females, though the difference seems not so great as generally supposed. "Men and women," says Heberden, "are equally liable to this malady: in a continued succession of a hundred patients, I counted fifty-two males, and forty-eight females."

The phenomena of jaundice are so peculiar, that it can hardly be mistaken for any other disease. It is stated by Heberden, "that the most distinguishing signs are a yellowness of the eyes, skin, and

urine, and a want of this colour in the stools," which symptoms are selected by CULLEN in his definition of it.

Nor need much be said of the prognosis. Most cases of a recent and functional nature are sufficiently medicable, and especially so as respects those of infancy. Being, however, of long standing, and complicated with disorganizations of the liver or other important structures, or in the old and infirm in any respect, they prove generally incurable, or of very slow or doubtful amendment.

Contrary to common opinion, it is asserted by Heberden, that attacks from gall-stones rarely are fatal. Nor according to BURSERIUS, "is there much reason to apprehend danger when occasioned by hysteria, hypochondriasis, or pregnancy, as it quickly ceases after delivery," in which latter remark I cannot concur, having witnessed in several instances very opposite results. It has already been mentioned on the authority of Baillie, that where the tinge is lurid or green, though the case may be protracted, recoveries seldom take place. Melæna, or the purging or vomiting of dark grumous blood is usually a mortal occurrence, and emaciation with hectic fever, or dropsical effusion, or any heavy cerebral affection, as profound coma, apoplexy, palsy, or convulsions, imports either immediate or remote danger.

We may generally prognosticate favourably where, with improvement in the appearance of the surface, there is a subsidence of gastric disorder, more natural fæces, and heavy deposits in the urine. Certain evacuations, as hæmorrhage from the nose or rectum, or by perspiration, or from the kidneys, or bowels, are reputed to be critical, promptly resolving the disease in some cases.

The appearances on dissection, from the history of the remote causes of the disease which has been given, must of course vary much. The liver in certain cases exhibits great diversity of structural derangement, while in other instances it is slightly or not at all affected. In the green jaundice, Baillie affirms, "that the liver is often enlarged, hard, and tuberculated throughout its whole substance, though this morbid change of structure is sometimes confined to a single part of it, and occasionally, no induration whatever is discoverable in that viscus." Gall-stones are occasionally found in its ducts as well as its bladder, varying as to number, figure, and size. "Frequently, however," says Burserius, "in icteric bodies, no morbid condition of the liver, no taint of the ductus biliferi, and no biliary calculi are observable." This statement is substantially confirmed by Heberden. The stomach and duodenum very often betray marks of phlogosis or its consequences, by thickening or other changes of tissue. For the most part, the qualities of

the bile, cystic and hepatic, are altered in colour and consistency. It has, to use the language of Good, "been met with acid, acrid, saltish, insipid, whitish, black, green, eruginous, and versi coloured—as dense and dark as elder rob, as tenacious and limpid as the white of eggs, and as crowded and granular as the spawn of frogs."

In very violent and lingering attacks, every part of the interior of the body is tinged of the same hue as the skin. The pericardium, the heart, the abdominal viscera, the blood-vessels, the meninges and substance of the brain, the fat, the cartilages, and even the bones, have been observed in this state. Excepting the milk, all the secreted fluids, as the perspiration, the saliva, the sputum, the semen, the serous exhalations into the cavities, &c. are also found discoloured. These statements are made on the authority of Bartholine, Lieutaud, Morgagni, Van Swieten, Storke, Haller, Burserius, Heberden, Powell, &c.

What is the proximate cause or true pathology of jaundice seems not determined. As before intimated, it has generally been ascribed to the absorption, more especially of cystic bile into the circulation, from some obstruction to its passage into the duodenum. That it does not depend on this cause exclusively, is shown by a case reported by Richter, where the disease occurred in an individual, who, after death, was found destitute of a gall-bladder—and scarcely less conclusive is the result of an experiment by Portal, in which he tied the cystic duct of an animal without producing jaundice. I have long entertained doubts, whether it could be assigned, under any circumstances, to either species of bile. It appears to me, 1. That, were it owing to this cause, the disease might at any time occur, or whenever there is bile exposed to the action of the lacteals or other absorbents, as when accumulated in the stomach and small intestines: 2. That though the stools usually indicate a want of bile, this is not uniformly so: 3. That in many instances of the disease, no obstruction existed on a *post mortem* examination in the ducts of the liver, or any other derangement to account for it: 4. That the peculiar bitter taste of bile is not discernable in any of the fluids: 5. That the disease sometimes comes on too suddenly, as in the instance of the concussion of a bomb, or from violent paroxysms of rage, to suppose it to be owing to absorption.

To these arguments it may be added, that in this disease there is very rarely any genuine bile formed. The fluid, discoverable on dissection, as well hepatic as cystic, has scarcely any such properties as to taste, colour, or consistency. It is a peculiar one, the result of a morbid secretory action, caused by the condition in which the liver is placed.

Even admitting that absorption takes place, as is contended for, the tinge imparted to the skin, should then be of a correspondent colour, and not of the various shades of yellow which happens. But such a process no more goes on in this case than in retention of urine. The bile must be taken up from the pori biliarii or hepatic or cystic ducts, or gall-bladder, which is contrary to all analogy and fact. Does it ever happen in relation to the urine under such circumstances? Conceding that genuine urine has been discharged from the stomach and other remote parts of the body, of which some instances are reported, they supply no evidence of its absorption. These parts have assumed a vicarious office as we have frequent occasion to witness with regard to menstruation.

Embarrassed by these difficulties, some of the advocates of the hypothesis, which ascribes jaundice to bile, have so far changed their ground, as to allege the greater probability of its being introduced into the blood by *regurgitation*, or lacteal absorption. As to the first of these suppositions, its absurdity is so obvious, that it has received a very slender support, and in relation to the second, experience refutes it. By Powell, a recent and authoritative writer on the subject, we are informed that the *disease* "*never accompanies those cases of immense secretion of bile*, which are called cholera, at least I have never seen it in very violent ones, nor do I know any author who mentions it, even as an accidental symptom, and if it had happened, it could not possibly have been overlooked. Bianchi," continues he, "gives a case where this circumstance was more narrowly investigated, for he examined the lacteals of a man who had died of cholera, and found that their contents were not in the least tinged by bile." Let me repeat that there is no absorption of bile. The secretory function of the liver in jaundice, so far as concerns the healthy exercise of it is suspended, as in bilious or malignant fever, and the earliest manifestation of recovery, is the restoration of its office.

Considered as no longer tenable, these views are now abandoned by the best pathologists, and a very early notion is revived, which supposes, that the phenomenon is owing to the liver being altered in its structure or functions, and the materials of bile in the blood consequently not being separated. But can there be a looser speculation, or a greater absurdity? The elements of bile, are not bile itself, which is a peculiar fluid, the product only of the secretory action of the liver, and can never exist till the blood is subjected to this process.

Denying, therefore, altogether these several hypotheses, I am led to believe, that in some undefined irritation of the chylopoietic viscera, arising from any of the remote causes formerly enumerated,

with which the capillaries sympathising, the serum of these vessels undergoes a morbid change, as in yellow fever, and in certain cases of poisoning, &c. The same discolouration which occurs in a part, from a bruise, happens in all these instances, and is equally referrible to the torpor or impaired vitality of the extreme vessels. The capillaries being in this languid state, no matter how it may be induced, are disposed to form a fluid of some shade of yellow or its combinations, thus tinting the surface, &c. We meet with it in the cachexies, &c. It sometimes happens in the diseases of the spleen—I have seen it as an attendant on gastric or enteritic epilepsy, and very conspicuously in the chlorotic affections, where the complexion exhibits all the gradations of hues from the icterose to the green and lived. As strongly is it illustrated in the cutaneous efflorescences, especially when of a weak or typhoid character. Cases of rubeola, scarlatina, and erysipelas have repeatedly come under my care, followed by this sallowness. But the most striking proof is offered in some of the early eruptions of infancy. These, at first florid, on the weakening of the vessels, gradually assume the sallow hue. The act of death is often productive of the same effect. It is indeed a very common occurrence, however pallid before, for the corpse to become all over yellow. But it may be asked, does not jaundice also tinge the internal structure of the body? Be it admitted, and what can be deduced from it? Does it not often occur, where it cannot possibly be imputed to bile? Moreover, are not the capillaries distributed through every part, the most minute and obscure recesses of the animal machine, and as the cutaneous, so are the rest affected?

Considerations, such as I have presented, seem to demonstrate that jaundice is not owing to the absorption of bile, and we are left, as I conceive, to seek for the cause of it, in that state of the extreme vessels which has been described. The parent irritation of the chylopoietic viscera, which is very commonly, I suspect, in the mucous tissue of the stomach or duodenum, and not the liver, is extended to the capillaries, and in consequence of the condition thus induced, changes are wrought in the serous fluid circulating through them, characteristic of the icteric affections. Complexional hues being bestowed in this manner in various other cases, why should it not also happen in jaundice? That the closest similarity exists in the whole of these affections is undeniable, and it remains for those who are opposed to the views I have endeavoured to sustain, to point out the peculiar and distinctive character of jaundice.

It is sufficiently apparent, from the preceding account of jaundice, that the prospect of effecting a cure, cannot be the same in the dif-

ferent cases—and, to be appropriate, our remedies must be varied, according to circumstances. The remote and not the proximate cause of it, we are called upon to remove in many instances, and from the diversity of circumstances by which it is induced, there can be no uniform or consistent plan of management adopted. Nor is this the only difficulty to be encountered. Cases dependent on the most opposite conditions, and exacting quite a different curative process, are so obscurely designated, as to elude all the powers of discrimination. It is on these accounts, that our practice is nearly always tentative, and I fear, too often degenerates even into absolute empiricism.

In the ordinary forms of the disease, where little fever or local pain exists, we commence the treatment with evacuations of the primæ viæ, and emetics are especially useful.

Cathartics are also important, so much so, indeed, as to constitute a very essential, and, not unfrequently, the only remedies. Beginning with active purging by calomel alone, or with its ordinary adjuncts, the bowels are subsequently to be kept in a soluble state, by magnesia, the neutral salts, or other gentle laxatives.

These two classes of remedies operate probably on nearly the same principle, removing causes of gastric or intestinal irritation, and by exciting the liver sympathetically, through the strong impression made on the alimentary canal. In proof of the beneficial tendency of purging in particular, it may be repeated that jaundice is often cured by the spontaneous occurrence of diarrhœa.

The case I have presented, one of the simplest of the disease, is comparatively easy of cure. But it wears a more complicated aspect, and demands a different course of proceeding. Coming on with fever, or a strong, full pulse, and topical uneasiness, venesection must be practised, and to some extent, to remove such a condition of the system. Greatly may it be aided by topical bleeding, which is too much neglected. The stomach, the duodenum, and the liver, are here all involved in irritation, congestion, or phlogosis. By a detraction of a few ounces of blood from the epigastric or right hypochondriac region, according to the indication, I have seen signal advantage to result, and, where the means of local bleeding cannot be had, blistering may be substituted. Not less are these measures required in those distractions of the head, which sometimes prevail for days, and relief not being afforded, prove one of the most afflictive attendants on the case.

What, however, calls for the most vigorous proceedings, is a relentless obstruction of the biliary ducts, from a calculus or the spasm

of these, or of the stomach, &c. inducing the intense suffering formerly noticed.

The indication here is two-fold, to induce relaxation of the duct, &c. so as to overcome the impediment, and to obviate inflammation, which would follow were obstruction or the spasm to continue. To meet these views, we resort to copious venesection, sometimes even *ad deliquum* —to the warm bath—topical fomentations, and to bleeding by cups or leeches—to vesication—to anodyne enemata and emetics. With regard to the latter, their use must necessarily be precarious and doubtful, to the expulsion of calculi.

These are found of various sizes, from that of a small granule to a hen's egg. It is obvious, that when the stone is so great as not to pass through the duct, vomiting must be mischievous—and it is utterly impossible to ascertain its dimensions. All that we can do is to be governed by the symptoms. Much pain, fever, and general excitement existing, emetics are to be avoided.

Being relieved of this urgent affection, the case next calls for the means which are supposed by many to have the power of dissolving or otherwise destroying biliary concretions. But I believe they operate on no such principle, and it is not easy to explain their efficacy. Be their modus operandi as it may, experience has taught that some of them are useful. Ether and the spirit of turpentine mixed, had once a high reputation under such circumstances, though now little, or not at all employed. Ever having done good, I suspect it was by their carminative or antispasmodic powers, and not from any efficacy as a solvent or deobstruent. Combinations of the alkalies, in the mild as well as the caustic state, have also long claimed, and perhaps justly, much attention. They are variously administered, though the ordinary shape is that of *Castile soap.* Equal portions of it, rhubarb and aloes, with or without calomel, I have often known to be effectual. The common potash mixture, prepared agreeably to the annexed formula, is likewise serviceable in a table-spoonful dose, occasionally.* But incomparably the best preparation which I have ever tried, is the following popular nostrum.†

Many articles, which must act in a very different mode from these

* ℞. Potassæ Carbonas—Gum Arab. āā ʒj.—Tinct. Theb. gtt. xxx.—Ol. Menth. gtt. x.—Aq. Font. ℥iv.

† ℞. Carbonas Potassæ, ℥j.—Sapon. Hispan.—Gum Arab. āā ℥ss.—Alcohol dilut. ℔b.—To be frequently stirred, so that the ingredients may be well mixed and dissolved, which will require several days. The dose is half a wine-glassful, to be taken for three successive mornings fasting, and, if not relieved, omit it for one day, and then recur to the same mode.

alkaline remedies are entitled to confidence. The acids, mineral as well as vegetable are among these, and especially the nitric, which is by some highly estimated. Cider or even lemonade I have known to be serviceable.

As a general rule, however, the treatment consists principally in keeping up a pretty constant impression on the primæ viæ by purgatives, with which view the pill or the syrup of the butter-nut is well entitled to notice.*

Next, where the case does not give way, an alterative course of mercury should be resorted to, and this failing, the nitro-muriatic acid, exhibited internally, as well as applied externally by frictions, or as a bath, may be tried. It is at this juncture, that the taraxacum, the dandelion of our fields, has been much trusted to by some practitioners.

Directly the reverse, however, of this plan of management, is recommended, consisting alone in the narcotics, as cicuta, hyosciamus, belladonna, the prussic acid, &c. To alleviate spasmodic pain, or to quiet irritation, I give opiates, and for no other purpose resort to narcotics, believing that these are the only purposes which they are capable of fulfilling at this stage of the disease.

Of the icteric cases, dependent on disorganized conditions of the liver, I shall here say nothing. Being merely effects of another disease, the cure can only be accomplished by its remedial, to point out the treatment of which, is alien to my present design. Little more, therefore, remains to suggest as to the management of icterus, than that advantage is sometimes derived from the use of those mineral waters, which are found appropriate to the other hepatic derangements. Even a journey to the Springs, and particularly when taken on horseback, is occasionally useful, not probably, as is generally imagined, so much by dislodging calculi, as invigorating the primæ viæ, or the secretory action of the liver. It is on the same principle that electricity and galvanism have been applied to the cure of these cases.

Too much, however, is usually done in the treatment of this disease. As long as the sallowness of the surface endures, it is thought by many practitioners, and always by the patient, that there is occasion for the continuance of active remedies. But this colour of the skin, merely an effect over which we have little control, when unconnected with constitutional disturbance may be disregarded, or left to the natural or recuperative powers to remove. From an opposite course, harassing the system, and especially the primæ viæ by such

* The Juglans Cathartica of Michaux.

measures, I have certainly seen a very serious derangement of health induced, and in some instances permanently entailed.

Convalescence is more effectually promoted by a duly regulated regimen, very similar to that in dyspepsia, and should the stomach suffer, by the moderate use of the vegetable bitters, or mineral tonics and particularly the mildest of the martial preparations, so united with rhubarb as to obviate costiveness. An oppression in the region of the duodenum, is not unfrequently felt an hour or more after a meal, owing perhaps to an accumulation of food from torpor of that intestine, to relieve which nothing answers so well as a couple of ounces of the infusion of senna and gentian, in the proportion of half an ounce of the former, to a drachm of the latter, in a pint of water.

As to the more inveterate forms of the disease, the green or black jaundice, it is confessed by Baillie, the highest authority on the subject, and which seems to correspond with common experience, that they are nearly intractable, no permanent, salutary impression being made on them by any ascertained means.

Mercury has very little influence. "The kind of induration," he tells us, "which attends the disease, is not affected by it in the same manner as those indurations of the liver usually are which sometimes accompany yellow jaundice. Mercury, however, will sometimes alleviate, for a time the uncomfortable feelings of the patient, and induce him to think that he is getting better, without inducing any substantial benefit. The daily use of neutral salts in small doses, has appeared occasionally to have been of some advantage: but of all the cases of green jaundice which have fallen under my notice, I recollect two only which recovered."

An icterose predisposition being established, and which is generally laid by an attack of any severity, speedy relapses, or more remote recurrences of the disease, are very apt to take place. To guard against these is an important consideration, as the constitution thus repeatedly assailed, becomes disordered, and ultimately a train of morbid consequences arises of the most fatal import. It will be well studiously to avoid all the exciting causes, and which are chiefly embraced in want of attention to the bowels, inappropriate clothing, indiscretions in diet, exposure to the fluctuations of weather, inordinate exercises, or the reverse, habits of indolence, the indulgence of intemperate passions, or the cherishing of anxieties, or cankering cares. This is a prophylactic precept, which should always be inculcated, and strictly observed.

ART. V. *Observations on the Medical Topography and Endemic Fever of Montgomery County, Alabama.* By CHARLES S. LUCAS, M. D. of Alabama.

THE county of Montgomery lies principally on the east side of the Alabama river, and includes within its northern and eastern boundaries a small portion of country between the Coosa and Talipoosa, which, by their confluence, form the Alabama river. This great stream originates in the mountains of the northern part of the state, and after a devious course, generally tending to the southwest, of more than a thousand miles, terminates in Mobile Bay, the great commercial outlet of the state.

The general aspect of the country is flat or level, but may naturally be considered in three portions. The first is that part bordering the river, which, from its lowness and fertility, is most valuable, and which is also most liable to disease, on account of being frequently inundated. These lands are peculiarly adapted to the cultivation of cotton and corn, the staples of the country, and when uncultivated, are clothed with most luxuriant growths of spontaneous vegetation.

The fertility of the soil is well shown in the stately and majestic appearance of the forest trees, which attain a size far exceeding that produced in other situations. For several miles from the river the surface of the earth is covered with thick cane brakes, apparently impenetrable except to the wild beasts.

Much time and labour are requisite for the clearing of these lands. The large trees are first girdled, and then the cane and undergrowth cut down. The vast number of trees thus destroyed, and the rapidity of their decomposition from the moisture and warmth of the atmosphere, must largely contribute to the causes of disease; but still more abundant sources of pestilent miasmata exist. Owing to the soft alluvial soil through which the Alabama flows, the course of the river is frequently changed, and the channels once occupied, remain filled with water, after the stream has diminished and receded within its banks. The sluggish and frequently stagnant waters of these lagoons, exposed to the intense and continued action of a scorching sun, are soon covered with a green scum, are the nidus of myriads of insects, and the surrounding atmosphere speedily becomes offensively tainted. Into the numerous small ponds the negroes are in the habit of throwing the decayed timbers removed from the cultivated land, and in no long time, a compound for the production of miasma is formed, which could scarcely be excelled by human ingenuity.

It will readily be believed that a residence during summer and autumn in such a vicinity, must be attended with great loss of health and risk of life. This experience has amply proved true, although some individuals whose constitutions have gradually become accustomed to this atmosphere do reside in such situations. Such persons, though not frequently attacked with the mortal diseases, so destructive to those who are accustomed to a pure air, nevertheless exhibit proofs of the baneful influence of the miasms in their mental debility and premature old age. The ability the negroes possess of resisting the heat of the sun, is not less remarkable than the constitutional peculiarities which enable them to bear more corporeal labour than the whites. They reside during the intense heat of summer in the most sickly situations, with the utmost perfect impunity, while the whites are obliged to retire in order to avoid the deleterious influence of the miasms.

At a distance of three or four miles from the river, we arrive at what is termed upland, or oak and hickory land, as this timber is there the most abundant. This soil, though not so productive as that we have just mentioned, is generally very fertile, and it is on this section of land that some of the most beautiful and highly cultivated plantations are situated. The deep vegetable mould which forms the soil, rests principally upon a stratum of red clay, which is very hard and mingled with pebbles bearing a considerable resemblance to pudding stone. The heavy rains which fall in winter soon wash away the superincumbent earth, wherever the surface is irregular, and expose a barren space, altogether unfit for cultivation.

The remoteness of this portion of land from the river, and its comparative dryness, render it less liable to the obstinate bilious fever common to the inhabitants of the river lands. Yet, bilious fevers of a very malignant character have prevailed here to a very alarming extent within a few summers past.

The third division of country, is that known by the name of prairie land, situated in the south western part of the county. They form one of the most striking features, not only of this section of Alabama, but also of a large part of the southern and western territory of the United States. They begin near the eastern boundary of this state, and extend without much intermission westward, towards the southern extremity of the rocky mountains. The surface for miles in extent is covered with a rich verdure, and strike the spectator with their strong resemblance to the meadows and grazing fields of a highly cultivated country. These plains vary from a few acres to a thousand or more in size, separated from each other by thin glades of wood;

not forming a dead level as is commonly supposed, but a succession of gentle risings and depressions, which have obtained for this the title of rolling land.

The soil is of a peculiar character, and extremely fertile, producing cotton in greater abundance, in favourable seasons, than the richest river land. There is a kind of shell limestone found at the depth of a few feet, which, unlike the limestone of Kentucky and Tennessee, is generally of a soft consistence and adhesive nature. The difficulty of obtaining good water, for drinking, &c. renders the prairie land objectionable as a place of residence; though in point of salubriousness, the prairie lands are not surpassed by the other parts of the state. This, among other causes, may be attributed to the comparative absence of animal and vegetable putrefaction, and the nature of the soil, which absorbs moisture so rapidly as speedily to become dry after the heaviest rains.

Climate.—The rainy season generally begins in the month of February, and with various intermissions continues until the middle of May. The water-courses overflow during the spring months. The highest flood which has been observed within the last fifty years, was that of April, 1822. From the hilly and unequal nature of the country through which the Alabama flows, the waters are collected with astonishing rapidity, and the river in the spring of the year frequently rises twenty or twenty-five feet within a few hours, inundating a vast number of fields. Lands subject to be thus overflowed, whatever may be their fertility, are comparatively of little value for the purposes of agriculture.

The summer usually commences about the first of May, and continues until the last of September; showers are generally frequent and profuse during this season. The summers of 1825–6 were generally dry, to which circumstance may be partly attributed the increase of disease during the last two years. During the summer the days are intensely hot from eleven until three o'clock; the thermometer ranging from 85 to 100° Fahr.* The nights are cool, and the atmosphere peculiarly loaded with moisture, so that when riding at night the hat and hair soon become wet.

The winter season is very variable, frequently changing from cold to warm, sometimes causing a thermometrical difference of twenty degrees in a few hours. Nevertheless, the inhabitants seldom suffer

* In the year 1823, the coldest weather ever remarked by the settlers, occurred in the month of February. The thermometer was as low as seven degrees above zero: this severe frost killed all the orange, fig, and olive trees in the lower part of the state.

from inflammatory affections, such as pleurisy, pneumonia, or rheumatism. Catarrhal affections are sometimes prevalent, and when neglected lead to phthisis: the latter disease is very rare.

The white population of the county are principally emigrants from Georgia, North and South Carolina, and a few New Englanders. Most of them are sufficiently well off, not to be under the necessity of labouring for their own support; and many of them are provided with every comfort that wealth can procure. The slave population is very considerable; and in general, slaves are humanely treated, being well fed, clothed, and lodged.

Strangers or unacclimated persons generally suffer during the sickly season, which may be said to commence in June and continue until towards the middle of October. Those who have resided in the country for a few years, resist the heat of summer very well and are less liable to the prevailing fever than transient visitors. So powerful is the influence of the climate on those unaccustomed to it, that slaves who have lived several years in the state, are sold at a higher price than those brought from Maryland and Virginia.

The inhabitants of the river lands consider themselves as comparatively safe, if the rains are frequent and sufficient to keep the stagnant pools or lagoons well filled. To the residents on the oak and hickory lands, the same cause is productive of most fatal consequences. A great extent of cultivated land, very frequently manured with cotton-seed, is exposed to the scorching rays of the sun, after having been sufficiently moistened to allow of the most rapid decomposition of the vegetable matter. The air becomes loaded with the noxious exhalations and the injury to the health of the inhabitants is severe.

For the first two or three years after the settlement of Montgomery county, there was little or no sickness observed; but since the lands have been rapidly cleared of timber, fevers of a formidable type have become prevalent.

Taking into consideration the peculiar fertility of the soil, and the rapid and luxuriant growth of vegetable productions, the general mildness of temperature in the winter and the powerful heat of the summer; the extensive surfaces of stagnant water teeming with every material suited to the process of speedy decomposition, we cannot be at a loss to account for the fevers, which so frequently occur in the summers, with desolating force.

The fevers of Montgomery may be considered as forming two varieties, which may be termed inflammatory and congestive.

The inflammatory form of fever was preceded by the following

symptoms; chilliness of the surface, extending down the back; in some cases the coolness was so light as only to be discoverable at the ends of the nose, fingers, and toes, while other parts of the body were preternaturally hot. Patients complained of great heat and suffocation, when the surface was cold and the heat only perceptible at certain points. The loins, knees, and large joints generally were very painful; head-ache, nausea and disposition to vomit, a small, quick, and variable pulse, with hurried respiration, were the symptoms of the first stage.

In the second stage the heat of the surface augmented considerably, the pulse was increased, full and unyielding; the face flushed, the conjunctiva red, excessive head-ache, tongue parched, and frequently delirium was present. The secretions were altered in character, and diminished in quantity, and the bowels were necessarily torpid. The excited stage being fully developed would continue for several hours, and even days, when a slight abatement would take place, about the same hour that the chill occurred on the preceding day. Sometimes no remission took place until the third day; in others the remission was so slight as scarcely to be discovered. The disease advancing, the symptoms become aggravated; the greatest distress, accompanied with much exhaustion occurred, and this violence terminated about the fifth, seventh, ninth, or eleventh day. Where the crisis is favourable, the pulse becomes soft, the skin and tongue moist, all the secretions more abundant, thirst diminished, respiration freer, and sleep natural. An unfavourable termination is indicated by the pulse becoming quicker, the respiration frequent, feeble and anxious, the tongue dark, brown, or black, and all the symptoms indicating the immediate proximity of dissolution.

The congestive form of this fever was not of such frequent occurrence as the inflammatory, but was altogether more formidable and fatal. The duration of the attack varied according to circumstances: the fatal termination speedily followed a violent accession, unless speedily relieved by energetic treatment. The symptoms were very deceptive; cases sometimes terminated in death before danger was apprehended, not occupying more than twenty-four or thirty-six hours in their whole course. The patient was generally affected with great depression of all the animal and organic actions; a slight, scarcely distinguishable chill, laborious respiration, sense of weight and oppression at the præcordia, great pain in the head, pulse frequent, low, struggling, indolent, and occasionally intermitting, where the brain was affected. The heat of the surface was partial or circumscribed; the tongue, which at first was but slightly changed, as the

disease advances becomes dark and almost black; the bowels were torpid, and loaded with dark fæcal matters. The sensibility of the skin was almost entirely lost; epispastics produced no effect. The muscular system was without power, and the mind prostrated. Stupor, delirium, convulsions, hiccup, involuntary discharges, with blotches, and gangrene of the extremities, marked the last periods of the disease.

The duration of this form of fever was various according to the violence of the attack, and the amount of congestion. In both varieties of the epidemic the functions of the liver, kidneys and skin were always in great disorder. Sometimes there was a redundant secretion of bile and urine, and at others both secretions were suspended. In some instances which fell under my observation the skin was thoroughly jaundiced, it was almost always dry and husky. Local affections were very generally complicated with the fever in the first variety of the disease. The spleen and lungs were seldom attacked with inflammation, but were during the first stage always considerably engorged. But the organs principally affected by the congestion were the liver and brain, the functions of which were so much interrupted or impaired as to be productive of the most alarming consequences.

The treatment resorted to during the cold stage, was such as appeared suited to shorten its duration, consisting chiefly of warm diluting drinks, warm bath, occasionally warm toddy and stimulating applications to the extremities. As soon as the system fairly reacted the use of the lancet was decidedly called for and the effect was always beneficial. But when the reaction was imperfect and feeble, the most injurious results would have ensued upon the same treatment. When the heat of surface was considerable, with head-ache and full pulse accompanied with much thirst, bleeding always proved of great advantage, and cathartic medicines subsequently operated much more efficiently.

Purgatives conjoined with local bleeding according to circumstances, were of great importance where the reaction was imperfect. When the heat of the surface was unequal, the senses impaired, and the secretions suspended with a slight disposition to vomit, no medicine was so efficacious as tartar emetic and ipecacuanha, in full doses, aided by warm bath. The temperature of the body would become equable, the secretory organs would resume their offices, and a copious discharge of bilious matter by vomiting, would leave the patient comparatively free from uneasiness, perspiring freely and disposed to sleep.

Emetics used with discrimination, had more influence in producing reaction than any other remedies that I have used, but in cases where great gastric irritability existed, they would probably have proved fatal. In these latter cases the nausea was promptly relieved by blisters. As co-operating to the same end, the saline mixture, soda water, lime water and milk, porter, infusion of columba, mint water and laudanum, and laudanum administered as an enema, were highly useful.

In all cases where general excitement quickly succeeded the use of an emetic, and the other means above noticed, blood-letting should always be premised before the administration of purgatives. Of this latter class, the mild ones proved most beneficial. When the liver was involved in the diseased action, I generally used calomel, and followed it up with the different saline purgatives, alone or combined with senna, or the castor oil; their action should be promoted by enemata, these remove the torpidity of the bowels, and are sufficiently active to evacuate the contents of the bowels, which are dark and tar-like.

Drastic purgatives were inadmissible; watery, and frequently bloody discharges, and great exhaustion following this exhibition. Whenever the secretion of bile is produced by the action of purgatives, the fever, pain, thirst, oppression and restlessness soon abates, and the other secretions being restored, the disease speedily yields. It is often useful to unite with the laxatives, the antimonials, in order to relax the cutaneous surface. Diuretics and sudorifics, as spiritus mindereri and laudanum, James's powder, spiritus nitr. dulc., nitrate of potash, serpentaria tea, warm drinks, as toast and water, lemonade, tamarind water, &c. were given to allay thirst, and keep up the discharge from the surface. If there existed any derangement in the cutaneous system, as partial perspiration; sponging the body with tepid vinegar and water, was beneficial by increasing the discharge from the skin. When the excitement is high, skin hot and dry, and great thirst; cold acid drinks, and sponging the body with cold vinegar and water, proved a valuable auxiliary in subduing arterial action.

Tonics.—Wine and bark, sulphate of quinine in porter, columba and gentian tea, quassia and orange peel, are tonics of great efficacy in preventing the recurrence of a paroxysm of fever, and preserving from relapses. When circumstances would admit it a removal from a low damp situation to a more elevated one, conduced very much to speedy recovery.

Diet, during convalescence, light and nutritious; exercise moderate: recovery usually followed in eight or ten days.

ART. VI. *Clinical Reports of Cases treated in the Infirmary of the Alms-House of the City and County of Philadelphia.* By SAMUEL JACKSON, M. D. one of the attending Physicians.

HOSPITAL clinical reports have of late been received with much favour by the medical profession. They are justly regarded as presenting facts, on the accuracy of which implicit reliance may generally be placed. The cases reported have been witnessed by numerous students, the records of the symptoms, of the attending circumstances, and the treatment, have been kept by persons, (the students of the house,) uninterested in the propagation of particular doctrines, or plans of treatment, who are not committed in their opinion, and who have no motive to exaggerate the symptoms, to conceal errors, or otherwise to deviate from perfect exactness in the particulars they daily enter in their journals.

In hospital practice the effects of particular remedies, and plans of treatment, when accurate ward books are kept, are more certainly to be determined than in private practice. A large number of individuals in the same diseases, are rapidly brought under view, experience is concentrated in a short period, and the general result can be ascertained by tabular statements. The patients are, besides, more absolutely subjected to the disposition of the practitioner; he is not embarrassed by the contrariness, the whims and prejudices of the sick; his ordinances are superintended by intelligent students, and executed by vigilant nurses. The facility and number of post mortem examinations, serve to test the correctness of the diagnosis of each case, to correct mistakes, and to ascertain with precision, the nature of the organic lesions, that have given rise to each train of symptoms. These are the circumstances that impart to hospital practice and experience its great value, and has caused it, at all times, to be regarded as furnishing the most important and precious information on practical details, as well as shedding a flood of light on pathological science.

The Alms-house Infirmary of this city is one of the best clinical schools in this country, from the number of patients brought into its medical and surgical wards, and the immense variety of the diseases that afflict human nature constantly to be found within its walls. The number of annual admissions into the Alms-house average above four thousand, and of those into the Infirmary over three thousand.

It has been a source of deep regret to those aware of the value of the experience of this institution, that it should have been of so little

avail to the public. It is one of the methods, and of no little worth, in which it might compensate the expense of its maintenance. A laxity of discipline and want of system prevails in the infirmary department that is distressing and perplexing. The medical board possess no authority, and the responsibility of the students, apothecaries and nurses, being to the board of managers, who meet once a week, who are fully occupied with the mass of business brought before them in relation to the other departments, and who can seldom hear of any delinquencies, except by complaints made to them from the medical attendants, and which will never be done except in flagrant offences, it becomes impossible to enforce a rigid performance of the duties of the house.

The frequent changes in the board of managers, who are annually elected, and of students, who are appointed for a year, are subversive of wholesome order and systematic arrangement. The first, just as they begin to understand the character of the establishment, its wants, the principles of its government, and could prove of the highest utility, mostly retire from the office of manager, and are succeeded by others, devoid of their experience, who often enter upon the duties of their appointment with erroneous ideas of its nature, filled with prejudices and prepossessions, of which they require time and some observation and reflection to be disabused. The last, after having been drilled into their duties, are about becoming useful to the institution, and capable of executing with propriety all that is required of them, find their time is expired, and are replaced by new ones who are inexperienced, and require, on the part of the medical attendants, the same wearisome process of watching them, and urging to the performance of duties they have not the authority to enforce.

The above statement will explain the absence of all medical records in the Infirmary of the Alms-house. This institution has possessed the materials for giving complete histories of different epidemics that have prevailed in the city and suburbs, from the numbers of patients carried into it, as well as of epidemics that have existed in its wards, that would have proved of the highest interest and importance to the profession; but not the slightest trace of them is to be found in any records or documents of the institution. All its experience in this respect, as well as of the vast number of most important cases of disease has perished.

An attempt is now making to remedy this most grievous evil, and it is fully calculated, that by the assistance of the intelligent and zealous resident students at this time in the institution, the medical board will succeed in obtaining regular hospital records and case

books to be kept in each ward. I propose to furnish, for the future numbers of this Journal, clinical reports derived from these sources, during the period of my attendance on the infirmary or hospital of the Alms-house. In the mean time, I shall offer for the present number, a statement of the cases of continued fever, that were brought during last winter into the clinical wards, under the direction of Professor CHAPMAN and myself, with the details of some of the cases, illustrating the general plan of treatment pursued, the notes of which were kept and have been furnished to me, by the gentlemen then attached to the wards as resident students.

With the intention of exhibiting the kind of patients who are the subjects of the treatment in this hospital, it will be proper to give a general account of this institution. The Alms-house of this city, includes under the same roof, an infirmary or hospital for medical and surgical cases, a poor-house for the indigent, and a work-house for vagabonds. This last circumstance gives to it somewhat of a disreputable character, and few who have remains of a sense of decency and self-respect, and desire to be esteemed respectable, will seek refuge in its wards, unless compelled by absolute necessity. The majority of the patients are individuals of the very lowest order of society, many of them the victims of the grossest habits of depravity, and nearly all suffering more or less from intemperance. A large proportion of the diseases are chronic in character, the consequences of the abuse of ardent spirits, of exposure to the inclemencies of the season, of deficient or improper alimentation, &c. Acute diseases are rarely seen in the first week, more usually they are not brought into the house until the second, or third, or fourth week from the commencement, and it is very seldom the patient has not, from his habits, more or less affected the integrity of his constitution. It frequently happens, that the patient on admission, both in acute and chronic diseases, has advanced into the last stage, is absolutely in a hopeless condition, disorganization of some of the tissues or organs has taken place, and often he is in articulo mortis. It is a common practice, but which merits severe reprehension, to send patients, as soon as they are despaired of, into the Alms-house, there to die; and it has frequently happened that they have expired on the way, or before they could be got into a ward. It has been an occurrence in one week, for three patients to be sent from an institution of this city into the Alms-house, of whom one died in the yard, another on the staircase, and the third in half an hour after being placed in a bed. The Alms-house infirmary can be regarded as little better than a hospital of the incurable and the dying. It is uncommon for a week

to pass without the admission of patients in the last extremity. This statement is made to show the difficulties that are encountered in the practice of this institution, and that the mortality of the house is not to be considered as a fair standard of the deaths, that occur under the courses of treatment adopted by the medical attendants.

Some observations on the general modes of treating diseases—methodi medendi—may be requisite, to give an understanding of the principles on which some of the cases that will be reported, have been managed.

There are three general plans or modes of treating diseases; the expectant—medicina expectans, the active or perturbating—medicina agens et perturbens, and the physiological—medicina physiologica.

The first, or the treatment of diseases by expectation, was the method of the philosophic Greek sects, and was that pursued and highly recommended by HIPPOCRATES, whence it has been named the Hippocratic method. The followers of this system consider the laws of the economy of man, or nature, as capable, to a great extent, of correcting the deviations of the natural actions, in which consist diseases, and restoring them to their normal condition. They thus recognise recuperative powers in the constitution or the whole of the organism, that tend to its conservation, and which give a disposition, if not interfered with, in the greater number of individuals and in most acute diseases, to a favourable issue. They believe these powers to be sufficient, in most instances, to the cure of diseases. Diseases, also, especially the acute, when left to nature, have been observed, at all times, to pass through successive periods of gradual development, of increase, of highest degree of intensity, of decline and convalescence. A solution is frequently effected by some of the secretions, as by urine, or sweat, or a purging, &c. or by a metastasis, when the disease is said to be judged, or determined by a crisis. From the extent of observations of this kind, made by the first spirits of the profession in every age, it cannot be denied, that most acute diseases have a spontaneous tendency to a cure, which is accomplished by the sole resources of the animal economy. These resources are more evidently displayed, and may be more relied on, in proportion as the patient has a sound constitution, is of mature age, and has not abused his organs, by gross violations of the rules of hygiene, in his habits of life. Acting on those principles and views, the expectant practitioner is a careful and cautious observer of disease; he contents himself with removing the causes that have produced it; he defends his patient from the lædentia, or whatever can injuriously affect him; he avoids troubling the spontaneous efforts of nature, by

imprudent and ill-timed proceedings; and seconds them by a careful and intelligent application of hygienic means, both of a physical and moral character.

The expectant method has received the sanction and commanded the approbation of the most enlightened and highly gifted medical philosophers of every period. It was the system of the Greek physicians, from which it has been known as the *Greek medicine*—it met the approbation of the instructed Celsus, as the following sentence shows, multi magni morbi curantur abstinentiâ et quiete; it was advocated by Alberti, in his dissertation De cura per expectationem, and by Camper in a treatise, De optimâ agendi vel expectandi in medicinâ ratione; it was defended by Stahl in his work, Ars sanandi cum expectatione; it was adopted and enforced by Hoffman, in various tracts—De optimâ naturæ morbis medendi methodo—De medicina simplicissima et optima, motu, inedia, aquæ potu—De inedia magnorum morborum remedio; it is sustained and illustrated by Pinel in his Médecine clinique, and his Nosographie Philosophique. In fact, the expectant treatment has been for three centuries almost the exclusive practice of the French physicians. This circumstance arose from the great vogue the Hippocratic writings have possessed in France, and the purity of the medical profession of that country from all connexion with the trade of medicines, and the branch of pharmacy, which inevitably leads to the degradation of the science, and to abuses in practice.

It cannot be disputed by the most prejudiced, that expectation in medicine is a practice perfectly rational, that it is based on the laws of the organism, that it is fully adequate in most simple, inflammatory and febrile affections, to carry the patient with certainty and safety to a happy result. But, in diseases invading the system with great force, extending to numerous organs, crippling and disabling them in their functions, so as to prevent them from affording to each other a salutary aid, occasioning irregular and anomalous phenomena, breaking up the usual courses of diseases, and prostrating all the recuperative energies of the economy, expectation would prove, what it has been denounced to be, a study of death. In those cases, art must interfere with its salutary processes, and bring to discomfited and fainting nature, the succours of its powerful and renovating means —when they are wielded by an exercised hand and directed by intelligence and skill.

The Homœopathic practice of Hahneman, that begins to count so many followers in Germany, is nothing more than pure expectation. So inveterate and deep-rooted are preconceived notions and preju-

dices, that, accustomed to regard medicines as the only means of combating and curing diseases, the homœopathics attribute in their treatment every favourable tendency or change, to the undoubted effect of a millionth, billionth, and even quadrillionth part of a drop of the tinctures of bark, of digitalis, of cicuta, &c. rather than to any conservative actions of the system itself. It seems never to enter the thoughts of many physicians, that the all-wise Deity in forming the admirable "piece of work, a man," the most complex and refined of mechanisms, exposed to innumerable morbific causes internal and external, constantly subjected to a vast variety of aggressions, calculated to disturb the harmony of its actions, to disorder its functions, and to disorganize its structure, should have left it without any inherent powers for its conservation and protection. Without the aid of doctors or physic, those powers are now, as they were before either existed, perfectly adequate to the removal of many diseases, and to maintain the integrity of the vital forces from morbid lesions.

The active, disturbing or perturbating system, is directly opposed to the expectant. The practitioner who acts on this plan, lays aside the character and conduct, that Baglivi, in the opening sentence of his Praxeos Medicæ, so justly and beautifully attributes to a physician—medicus naturæ minister et interpres, quicquid meditetur et faciat, si naturæ non obtemperat, naturæ non imperat. On the contrary, nature is disclaimed as an auxiliary, and her efforts are regarded as more mischievous than beneficial. To use the language of the late Professor Rush, in his lectures, nature, when the physician enters the sick room, is to be turned out of doors, as a noisy cat creating a disturbance. In acting on the disturbing method of treatment, the object is to cut short the disease at once, as some express it, and the most energetic means are had recourse to. "The kingdom of heaven suffereth violence, and the violent take it by force," Matt. ii. 12. is a text adapted to this school. The heroic remedies are exhibited with a lavish hand—a ceaseless and restless activity in prescribing and administering medicines prevails—every organ is called into action, every function is disturbed, every emunctory is attempted to be forced, to expel through it the disease. Bleeding, vomiting, purging, sweating, urination, salivation, expectoration, stimulation, rapidly succeed each other, and not unfrequently are attempted all at one time; remedies become every thing; they are regarded as omnipotent: nature, the conservative powers of the system, are sunk into nothing, their sanative influence is unknown, or superciliously treated with contempt; though happily for the patient, those despised powers, often triumph over the disease, physic, and the doctor, combined to his injury. The

heroic remedies are in the highest degree perturbating in their actions, they possess a degree of activity not inferior to any, and superior to most of the morbid causes by which diseases are generated. They are agents from whose administration, if ill-timed, improperly selected, or to which a wrong direction is imparted, the most disastrous results may ensue. Their employment requires in the prescriber the greatest caution, extensive theoretical and practical knowledge of his profession, and consummate skill.

The active or disturbing plan of treatment should be followed with a wise reserve. Its energies are not to be displayed on every occasion, but brought to bear on those cases only, in which the implication of most of the important organs in the diseased action, the denaturalization of their functions, the suspension of the natural secretions, leave few healthy organs to resist diseased organs, and of the sympathies of healthy actions to counteract those of morbid actions, and, consequently, no rational expectation can be entertained, that the system is capable of its own protection. It is under such circumstances that active medicine is to be adopted, and the auxiliary aid it brings to nature oppressed and sinking in the struggle, often ensures a victory, when it would have been doubtful, or when defeat without its succour, was inevitable.

Active medicine is, however, too often empirical in character. Remedies are clothed with supposititious specific properties, that are ticketed against particular affections or symptoms. For fevers, there are febrifuges—for coughs, expectorants—for debility, (that little understood and much abused phrase,) tonics and stimulants—for the profluvia, astringents and absorbents—for convulsions, antispasmodics—for amenorrhœa, emenagogues—for dropsies, diuretics and hydragogues—and for all diseases the panacea mercury. Prescribed on principles like the above, the effects of remedies cannot be relied on. The same train of symptoms arises from causes the most opposite, belong to diseased conditions of organs exceedingly different, and requires an intelligent discrimination to decide on their character, and the means they indicate to be employed. Nothing besides is less demonstrated, than the specific effects of remedies; nothing less certain than a power to produce their denominative remedial results; nothing is more positive than that they frequently aggravate the very condition they are administered to remove. Remedies, then, are only to be considered, in reference to their mode of influencing the organic actions, both of the surfaces to which they are applied, and remote points, and the relationship between this influence and the

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existing state of the organic actions. On no other principles can they be usefully, safely, and satisfactorily prescribed.

The active or disturbing medicine, and to a great extent of fearful activity and empirical character, prevails in Great Britain; and deriving our science from that country, is common in the United States. The character of the English science has been affected by the vicious organization of the medical profession. Two-thirds of the practice of medicine in Great Britain, has been for some centuries, in the hands of apothecaries. This circumstance originated from a decision of the house of lords in an appeal from the court of king's bench, in the case of the college of physicians against Rose, an apothecary, who had been prosecuted for an infringement of the statutes in prescribing medicine for the sick. The judgment against Rose was reversed, and by this most famous decision of the hereditary legislators and judges, the English apothecaries were authorised to prescribe and administer medicine to the sick, at the same time they were prohibited from charging for advice as physicians. The remuneration of the English apothecaries for their attendance, is derived from the physic the patient swallows, and the more they can get down him, the better is their pay. Should rest and a diet, with diluent drinks for a day or two be all that would be requisite, as it so frequently is, in the treatment, it is clear, the apothecary could not live by advising it; he must prescribe a draught, or a pill, or a julep, or some physic, to be remunerated for his services, and ten to one, if an active medicine be given, but a patient is made, who pays pretty well before he is done with the services of his attendant. The earlier English apothecaries, were for a long period, a very different class from the present intelligent and well educated men of whom they are composed. They were illiterate and ill-informed; they were not regarded in a respectable light; and something reproachful attached to the name. Their practice was necessarily empirical, consisted in a blind and confident reliance on medicines and specifics, to the entire disregard of regimen, whose salutary and efficient resources were wholly unknown and unattended to. Philosophical medicine, and an observation of nature; the study of the laws of the organism, the direction and modification of which, is the aim of the enlightened and truly scientific practitioner, could have no existence in a profession constituted on the principles of the English apothecary or general practitioner. The great mass of the medical profession of England being of this description, confounding departments that are different and should always be kept separate, uniting a trade to the

science, and pharmacy to the practice of medicine, has imparted an unhappy influence to English medicine. It retains much of Arabism in its character, the distinguishing features of which were polypharmacy and an absolute confidence in pretended specifics. We still see in English medicine, the interminable search after new remedies, new medicines, new formulæ, to be continued with unabated ardour, as though the materia medica was not overloaded and clogged with the weight that has been heaped upon it; as though practice had not sufficiently demonstrated that the abundance of a pharmacy, is a certain proof of its inefficacy, and the number of certain remedies for a disease the evidence of their inutility; as though millions of experiments and two thousand years of experience, without the discovery of a single specific or absolute remedy for a disease, was not sufficient to demonstrate the utter futility of the expectation. It is time that this delusion of medicine, like the idle reverie of early philosophy—the philosopher's stone, should be consigned to oblivion.

Physiological medicine is of modern date, and, in its improved and rational character, Broussais is entitled to be regarded as its founder. The establishment of a system of medicine on physiological principles, is not a novelty. It has been frequently attempted. The system of the late respected Professor Rush, was a physiological system of medicine, but physiology was, then, in a very different condition from what it is at the present day. Analytical anatomy had not made known, at least in this country, the true structure of the human frame; the doctrine of the membranes or tissues, which forms an epoch in medicine, was unknown in England or America, and both countries were equally ignorant of the General Anatomy of Bichat, a work that Professor Chapman has pronounced in his lectures to be a revelation in medicine. It was impossible that a physiological doctrine of medicine could have done more in that state of the science, than have made approaches to the truth—perfection was not within the reach of human genius. That Dr. Rush failed, is no more than was to be expected, and offers no impeachment to the clearness of his intellect, the vigour of his reasoning faculties, or the soundness of his judgment; it is justly to be ascribed to the deficiencies of our anatomical and physiological science, in the elementary materials from which the principles of his system were to be derived. The general principles, however, of Dr. Rush, with some exceptions, corrected by the doctrines of general anatomy, will be found to approach to the leading principles of the physiological medicine of Broussais, and to confirm their correctness.

The pathological doctrines inculcated from the practical chair of

the University of Pennsylvania, for some years past, by the present professor of the theory and practice, have, in many points, a strong similarity with those of the celebrated French reformer. From the deficiency of our physiology, from which science all sound and extensive views in pathology must be derived, he has, however, laboured under the same disadvantages that have embarrassed all the attempts, heretofore, made in the accomplishment of an entire physiological system.

Physiological medicine takes for its basis the structure of the human system, the healthy actions, and the laws that govern them. The human system is a complicated animal mechanism. It consists of numerous organs, each having peculiar functions; these organs are arranged into apparatus for the performance of certain offices; each organ is itself a compound, resolvable into elements called tissues or membranes, each tissue having a peculiar nature, actions and functions.

The organs and several apparatus of organs are of different importance in the scale of vitality; some only affect life remotely and indirectly, others immediately: they have different degrees of relationship to each other; some are so closely connected as to have a mutual and immediate dependance; with others the connexion is not as close, and in some of inferior grade, barely exists. The organs and apparatus are connected in two ways. The one depending on the functions as more or less essential to the actions of each. The other arising from the communication of impressions and actions made on one to another, which is through sympathy. The last differs in the organs in intensity and extent. It is most lively and most extensive in the most important organs.

All impressions made on the organs must be received by its tissues. Every impression produces some change or modification in the action of the tissue to which it is applied; and every change of action must be accompanied by change of structure. Disease then, the result of abnormal impressions, is a change in the action and structure of the tissue of an organ.

Disease is always local in its commencement, but other organs, by sympathy, partake in the diseased condition. The important organs, as having the most numerous and most active sympathies, are either primarily or secondarily affected in most diseases.

Diseases being deviations from the natural actions and structure of particular tissues, are always local, never general. All the tissues and organs are never found to be at one time in a morbid condition. The greater the number of local lesions, and the more important the organs, the more difficult is the restoration to health. Diseases being thus local, different parts or organs of the system may, at the same

time, be in the most opposite condition, and require a different treatment directed to each.

From the above general outline of the principles of physiological medicine, it will be seen that every case of disease presents to the practitioner the following problem for solution.

Certain symptoms existing, to determine the organs and the tissues in a state of lesion:

The morbid organs and tissues being ascertained, to determine the nature of the lesions in each:

The morbid organs and tissues, and the nature of the lesions being determined, what are the hygienic means and therapeutic agents, whose modes of action on the tissues, whose physiological effects, will enable the practitioner to combat those legions, in the most direct and speedy manner, and with safety to the patient.

Such is the problem every physiological pathologists feels himself bound to decide to his own conviction, before he finds himself at liberty to commence a plan of treatment, the object of which is the active and powerful modification of the laws and actions of life.

Of the general methods of treating diseases, the last is that which commands my preference, and which I enforce in the management of most of the cases that come into my charge. In chronic diseases, that resist the rational plan of cure, I most usually resort to the expectant method, and it is only in a few obscure cases, where the other methods have failed, that the disturbing and empirical is put in requisition. It is with a view to illustrate the physiological practice, so much abused, and so little understood in this country, I propose to make publication of some of the numerous cases subjected to that system of treatment, and the general result.

The Alms-house Infirmary consists of six medical wards, three of which are appropriated to females and three to males. There are besides surgical wards, and cells for lunatics. In the spring, summer, and autumn, when the clinical class does not exceed fifty or sixty, the students accompany the prescriber through the wards, and clinical observations are made at the bed-side. In the winter, when the class amounts from one hundred and eighty to two hundred, the most interesting and important cases are collected in the clinical wards, connected with which is a lecture and operating room. In this room the class assembles, and the patients are transported to it in their beds. Here they are examined before the class, the symptoms inquired into, the nature of the disease investigated, with observations by the lecturer on its pathology and treatment.

The medical wards are attended by Drs. CHAPMAN, MITCHELL, HODGE, and myself. August, September, and October are the term of my attendance. The *clinique* during the winter months devolves on Professor Chapman, with whom I have been associated in that duty for the last three years.

The regular clinical days in the spring, summer, and autumn months, are Mondays and Thursdays; in the winter, Wednesdays and Saturdays. On those days the class attends on the practice of the house, and clinical observations are delivered on the different cases. The attending physician visits the house on the intermediate days, according to the urgency that may exist, requiring his presence. The senior resident students prescribe during his absence. This explanation is requisite, as the treatment is sometimes commenced by the resident student, and is not always in conformity to the principles of the visiting physician.

CASES.

It is not in my power to give a statement of all the cases that occurred, from the absence of accurate, I may almost say, of any hospital records in the infirmary department. This defect is now remedied to a certain extent, and will enable me to give fuller statements hereafter. I am indebted to Dr. WALTON and Mr. KENNEDY, resident senior students, for a list of thirty-four cases of continued fever, to which the term typhus is so commonly, but incorrectly given. Of this number seven died, all of whom were excessively intemperate in their habits. To Dr. Walton I am also indebted for the histories of some of the following cases, which he recorded at the time they occurred, in a private case book he kept for his own instruction; a part of them is taken from the clinical ward book, in which some of the cases are recorded.

CASE 1st.—*Case of Fever, (extracted from case book of H. Walton,)* —Moses Howard, (black,) aged twenty-three years, was admitted into the Alms-house Infirmary on the evening of the 24th of September, 1826. He had been ill about three weeks. While at work at his trade, that of a blacksmith, he felt overcome with heat, and in this state he swallowed a potatoe, which caused immediate sickness of the stomach. Feeling thirsty, he took a drink of water, which was soon followed by puking, and he threw up what he had eaten at dinner. After vomiting he felt better. At dark he was worse and had nausea. He rested tolerably well through the night. After this he was attacked with rigors every day, followed by fever, which set in at noon

and continued through the afternoon and night. Towards morning there was a remission of the febrile paroxysm. For the last three days his fever had been continued, and was attended with delirium.

The symptoms on admission were—pulse quick, without tension—skin hot and dry—tongue foul, covered with a brown crust, except at the edges, dry and rather contracted—lips dry, scaly—teeth fuliginous—eyes heavy; the upper half of the ball more injected than the inferior portion; suffused with tears. He has no appetite whatever—there is tension of the abdominal parietes—complains of pain in the abdomen, increased by pressure over almost every part of it. His head is painful and attended with delirium.

25th. This morning I find him about the same as last evening. He dressed himself and was anxious to go down stairs—his hands are cold—he picks at the bed cloths and has slight subsultus tendinum. I did not disturb him during the night, but commenced the treatment this morning as follows, viz.:—

A blister to be applied to the occiput and back of the neck—bowels to be evacuated by simple injections—feet to be bathed in water as hot as can be endured—diet to consist of preparations of sago—drink to consist of barley water, acidulated.

About eleven o'clock Dr. Jackson saw the patient; at this time the eye balls were highly injected and rolled upwards—skin cold—pulse small and frequent—stupor. In addition to the treatment, four cups were directed to the head, two of which were to be dry, and two with scarifications, also twelve leeches to the epigastrium, followed by warm fomentations to the abdomen, and frictions of terebinthinate decoction of cantharides to the extremities. The leeches were applied in the evening. Blankets wrung out of hot water to his legs.

26th.—Very much improved. His strength has increased. There is reaction with more heat of the skin—a better pulse—no subsultus tendinum—eyes less injected and not turned upwards.

28th.—Better. Treatment consists in frequent application of blankets wrung out of hot water to his extremities. To have to-day a simple injection and a dose of castor oil. The warm fomentations to the abdomen to be continued—injections of cold flaxseed mucilage.

29th.—Improving very fast—the heat of his skin is nearly natural—tongue becoming moist. Diet to-day, to have the addition of chicken water.

30th.—Improving. The warm fomentations are still continued to the abdomen. Bowels kept open by simple injections of flaxseed tea.

October 1*st.*—Still improving—tongue nearly clean—pulse regular—strength increasing.

2d.—Sitting up this morning, but is ordered to bed, as he is not considered sufficiently recovered to bear exertion. Diet; soup, gruel, &c.—*Evening.* Complains that his bowels are confined. Ordered a simple injection to remove this.

3d.—Sitting up at times—complains yet of debility. Diet; soup, bread, gruel, &c.—drink, barley water. Directed him to drink of the following tonic decoction:—

℞. Pulv. Cinchon. opt. ℥ss.
Rad. Colomb. ʒij.
Cortex aurant. ʒi.
——— cinnamon. ʒss.

Add to a quart of boiling water—reduce by simmering to three half pints.

7th.—Walking about—fairly convalescent.

23d.—This patient has rather a slow convalescence. This Dr. Jackson ascribes to too great an indulgence in eating meat, &c. He therefore orders him to have nothing but barley water for twenty-four hours. To take also ℥ss. ol. ricini.

November 4th.—Convalescence proceeded rapidly under a more restricted regimen. Discharged cured.

Observations.—This case, at the time it was presented to our notice offered a train of formidable symptoms. I remarked to the clinical class at the time, that it had been customary to combat the condition of the system, which was one of great prostration, with tonics and stimulants, freely administered. But this practice in the Alms-house, having so frequently failed to accomplish the ends that had been looked for, I was discouraged in attempting it in the case then before us. The state of the intellectual faculties, the injected condition of the eye and its tendency to be constantly rolling upwards, with the convulsive twitchings of the muscels, were complete evidence to my mind that the meninges of the brain were the seat of considerable irritation: the dry, brown, parched tongue, the extreme sensibility of the epigastrium, the nausea that had early existed, were equal indications that the intermittent irritation had become fixed, and we had now a gastritis of no slight intensity to contend with. The prostration was, then, the consequence of this condition of the brain and stomach, by which, in the first place, the nervous functions were in a state of lesion, and were maintained in that state by the sympathetic irritation directed on the brain from the stomach; and in the second place, the concentration of irritation in the stomach and small intestines, constituting them a focus of the vital energies and the circulating fluids, at the expense of other organs, was the imme-

diate cause of the diminished actions and enfeebled functions of the skin, of the central organ of the circulation and of the pulmonary system. From this view the indication was to diminish the excess of irritation in the brain and stomach, and operate a revulsion on the surface. Notwithstanding the degree of prostration and apparent debility, I would therefore venture on a direct but moderate local depletion to act on the two points, the seats of the irritation; to allay that of the stomach by cooling and demulcent drinks, while the skin was excited by means of moist heat, by enveloping the half of the body in blankets rung out of water as hot as could be borne, and renewed night and day as soon as they began to cool. This mode of stimulating the skin, when it is intended to produce a revulsion from the brain, I prefer to sinapisms or blisters, when cerebral or meningeal inflammation exists, as pain is a direct and energetic stimulus of the brain and almost every organ, and often aggravates and even excites inflammations in the brain, stomach, &c. The result of the treatment was highly gratifying, especially from the rapidity with which the very formidable symptoms disappeared. It is to be remarked that the convalescence was retarded by the full diet allowed, in the expectation of conferring strength.

Case II.—Ann Riggins, aged thirty, fair complexion, delicate frame, sober habits, admitted into the Alms-House, February 12th, 1826.—She had been sick upwards of three weeks, and was a patient of one of the Dispensaries—after exposure to wet and cold, she had been seized with pains in the back, head, and extremities.—Fever succeeded, and which had continued until her entrance into the house. According to her statement she had taken during her treatment four emetics, a number of powerful purgatives, and nitre powders. A large blister had been applied over the epigastrium, showing that gastric symptoms had existed, and her extremities were also blistered.

At her admission into the ward at twelve o'clock, M. she presented the following symptoms—skin dry and husky, eyes injected, cheeks flushed; tongue dry, hard, cracked, pointed, brown, and crusted; bowels costive, extremities cold, pulse scarcely perceptible, breathing short and difficult, stupour amounting almost to insensibility, great distress evinced on pressing the epigastrium.

The lower half of the body was immediately wrapped in blankets wrung out of warm water, a common house injection was ordered—acidulated barley water for drink.

Evening—skin more natural in temperature and feeling, pulse more developed, coma continues—cups to be applied to temples and back

of neck, cold to head, warm fomentations to lower extremities to be continued during the night—same drink.

13*th.*—Is much better—stupor relieved—converses freely and gave the history of her disease and previous treatment—complains of no pain except when she coughs, no pain in head, eyes less injected and face not as much flushed, tongue becoming moist but is furred; feet warm, pulse full and soft, bowels freely opened by injection—continue treatment. Five, P. M. slight increase of fever, with some difficulty of breathing, bowels not moved since morning, injection given at nine P. M.—fever soon after subsided.

14*th.*—Improving—fomentations omitted.

15*th.*—Has return of pain in the head, eyes more injected, tongue brown and dry, pulse feeble, bowels not opened.—The warm fomentations to be renewed, and an enema to be administered. Nine P. M. pain in the head removed, tongue moist, no fever.

16*th.*—Her feelings are better, a disposition to coma exists, the eyes are injected and when sleeping, they roll upwards under the lids half closed—fifty leeches behind the ears, and an irritating revulsive injection of infusion of jalap, ʒi. senna ʒii. water ℔i.

Evening—bowels opened three times by injection, stools natural colour, head very little relieved, tongue moist but furred.

Sinapisms to ankles, and fomentations to be continued, hair to be removed from the head, and cold constantly applied during the night.

17*th.*—Much better, no disposition to drowsiness, eyes clear, no pain in head, tongue furred but white and moist. Ordered ʒss. castor oil—sago for diet.

18*th.*—Continues mending, bowels opened by oil, tongue moist, fur cleaning off, no pain in epigastrium or abdomen, pulse and skin natural.

19*th.*—Entered into convalescence, diet increased.

Observations.—Riggins had been subjected to the perturbating practice, employed with great activity, but without the least improvement—it may be said with an aggravation of the symptoms. When she entered the house, her condition was certainly most unfavourable, if not desperate, but a treatment calculated directly to diminish the inflammation existing in the stomach and meninges of the brain, brought about an immediate change, and placed her in safety.

Case III.—Fleshower, aged about thirty-five, an assistant nurse in the women's clinical medical ward. In the fall she had intermittent fever, for which she had entered the house. It was accompanied with violent paroxysms of fever, head-ache, and gastric irri-

tation; she was bled from the arm and put on barley water for sole diet. The intermittent disappeared after the third or fourth day of treatment; she had continued well and was employed as an assistant in the ward, until January 10th, when she was attacked with chill, pains in limbs, followed by intense head-ache with pain in the chest. The bowels were bound; the tongue dry, furred, brown colour; nausea, restlessness, jactitation; epigastrium sensible, pressure occasioning acute pain; thirst ardent, eyes injected with blood; pulse full, frequent, tense; skin hot and dry.

Twelve ounces of blood were taken from the arm, an injection of infus. sennæ was directed, cups to head and epigastrium, blankets dipped in hot water to the legs, cold to the head, acidulated demulcent drinks taken cold.

January 11*th.*—Bowels opened by injection, pain in epigastrium increased, distress of patient greater, all the symptoms more unfavourable. Simple enema to be repeated, and sixty leeches to epigastrium, the leeches were applied at twelve o'clock. Evening—Better in every respect immediately after the application of the leeches, the head-ache, pain in epigastrium, restlessness and distress were dissipated; the skin is now moist, and of natural temperature, tongue moist and soft. The hot fomentations to lower extremities continued; diet, acidulated barley water.

12*th.*—Improving, diet continued.

13*th.*—Still better.

14*th.*—Committed an error of regimen, fever returned; tongue dry, furred; pain in side. Cups were directed to be followed by a blister; not experiencing relief, some hours after V. S. ℥xii.—absolute diet.

15*th.*—Better.

16*th.*—Breathing oppressed, pain returned—V. S. ℥viii.

17*th.*—Better, pain continues, and pulse excited—V. S. ℥x. treatment, absolute diet.

18*th.*—Improving.

19*th.*—Symptoms have all disappeared; increase diet.

20*th*—Convalescent.

Observations.—In this case the patient came under treatment, which rarely happens with the patients of this institution, from the commencement of the disease, and the physiological treatment could be brought into action, against the simple disease not aggravated by the effects of disturbing remedies on the organs. Cups were resorted to in the first instance, to economise the expense of leeching. I have always observed, however, that cups to the epigastrium, when it is very sensible, and pain is acute on pressure, by the pain they occa-

sion, aggravate the symptoms. This case is an instance of the kind. The effects of the leeches in reducing gastric irritation, were most conspicuously displayed in this case. It is also to be remarked, that the cerebral symptoms were immediately relieved on the diminution of the gastric irritation, by the leeching. This circumstances I have repeatedly observed. It is a strong proof, that in fevers the celebral disorder is sympathetic, and this effect may almost certainly be relied on, from local depletion from the epigastrium in fevers, when the continuance of the morbid sympathetic irritation has not become permanent in the brain or its meninges.

On the 14th, pleuritic symptoms were manifested, which easily yielded to a pure, unmixed antiphlogistic treatment.

Case IV. ——— Connor or Forrest, aged forty-two, small stature, dark complexion, was admitted December 24, 1826, from an outward. She had been complaining several days, and some purging medicine had been given to her. Slight fever existed, with cough, for which an expectorant mixture had been prescribed with barley water. I saw her the first time on the 29th. She then complained of sore throat, which was inflamed—the tonsils enlarged—she had fever—delirium—appeared to suffer great pain, moaning loudly, and often screaming—very restless, not keeping one posture five minutes—tongue furred, dry and hard—epigastrium very sensible, and intense pain resulting from pressure—nausea and occasional vomiting. Leeches were directed to be applied to epigastrium—warm poultices of flaxseed and onions around the throat—cloths dipt in tepid infusion of flaxseed to be constantly applied to abdomen—and blankets, wrung out of hot water, to the lower extremities—cups to the head—acidulated barley water.

30*th.*—A slight amendment—pulse irritated, feeble—tongue dark—teeth fuliginous—the skin continues dry—vapour bath, made by putting hot bricks under the bed clothes, supported on hoops, and pouring on them vinegar and water—delirium and head-ache—the ward is kept disturbed by her moans and screams. Blister to back of neck—frictions with terebinthinate decoction of cantharides to legs.

January 1*st.*—Better—tongue moist—ideas less confused—temper irritable—jactitation incessant—two beds are placed beside each other, that she may toss herself into them alternately—throat better—pulse small and irritated. Ordered injections.

2*d.*—Considerable amendment, especially in the cerebral symptoms, which have nearly subsided—temper very irritable. Continue treatment—begins to sleep, and is less noisy.

3*d.*—Continues to improve—treatment the same.

4th.—Better—sago for diet.

5th.—Gradually improving—tongue moist and soft—skin natural—bowels regular.

6th.—In changing the stoves yesterday, the ward became very cold—a relapse took place in the night—throat sore, with dry tongue. Poultice to throat—vapour bath, with fomentations to extremities and abdomen—acidulated barley water and sago for diet.

7th.—Much better—fomentations and diet continued.

8th and 9th.—Continued to improve.

10th.—Was removed to clinical ward.

11th.—Not as well—took cold by the removal—fever—dry tongue—pain in epigastrium—the former treatment renewed.

12th.—Better—tongue still dry.

13th.—Improving—skin dry.

14th.—Same as yesterday.

15th.—Porter and water—with spiritus mindereri and black drop at night.

16th.—Convalescing.

Observations.—This woman had been an inmate of one of the outwards for some time—her general health was bad—the skin of an unhealthy hue, and the countenance exhibiting the characters of a person advanced in life.

From these circumstances, and the depressed and enfeebled state of the circulating powers, depletion was very sparingly employed. External revulsives, with absolute diet and demulcent drinks, were alone relied on, and proved fully adequate to the relief of symptoms that assumed for a time a most threatening aspect. I have never seen a patient in whom restlessness was so distressing. The assistants were occupied day and night in removing her from one position to another. This feeling has generally been remarked as one of very unfavourable augury.

Case V.—Catharine Shearer, aged twenty-four, fair complexion, delicate frame, has enjoyed good health—a domestic servant. Three weeks previous to her admission, while menstruating, was exposed to wet and cold. She was attacked with rigors; pain in the head, back, and stomach succeeded, followed by a severe febrile paroxysm that lasted for eight or ten hours. She has had similar paroxysms daily, and the intermissions have not been complete. She has been a patient of the Dispensary, and has been treated with cinchona and other tonics. During her disease she has continued to emaciate, and is now very much reduced in flesh and strength.

November 10*th*, 1826—She was admitted into the clinical ward.

presenting the following symptoms: emaciation, prostration of strength, heaviness and torpor of mind, cheeks flushed, tongue furred but moist, dry troublesome cough, some dyspnœa, pulse frequent without tension, skin hot and dry, bowels open.

Treatment.—℥ii. spiritus mindereri every two hours—warm pediluvium—cold applied to the head—cool acidulated drink.

11*th.*—Fever diminished—nearly a complete remission—exacerbation in afternoon—tongue furred in the centre, moist and clean on the edges—face flushed—pulse frequent—irritated—delirium. Treatment continued.

12*th.*—Better—remission more complete—exacerbation of the afternoon more moderate—less delirium.

13*th.*—Fever returned at eleven A. M.—continued through the day—delirious at night—jactitation—difficult to retain in bed—diarrhœa, discharges watery and yellow.

14*th.*—Improvement—more remission—less exacerbation—pulse firmer and more regular—skin softer and more natural.

15*th.*—Same as yesterday—treatment continued.

16*th.*—Fever as usual. Cold flaxseed decoction to be kept constantly on abdomen. Allowed chicken water.

17*th.*—More of a remission—vomited last night bilious matter—skin softer—pulse firmer. A laxative drink, composed of manna ℥ii, crem. tart. ℥i., pruna gallica ℥iv., to a quart of water, was directed.

18*th.*—Rigors this morning of fifteen minutes duration—febrile paroxysm as usual—several alvine discharges.

19*th.*—Chill and fever again to-day—symptoms better—respiration freer and fuller—tongue nearly natural—pulse fuller and less irritated—countenance more animated. Ordered infusion of horehound for occasional drink.

20*th.*—Chill and fever returned, which terminated with sweat—other symptoms improving.

21*st.*—Same as yesterday—the sweat more copious.

22*d.*—Paroxysm as usual. From the repeated occurrence of the febrile paroxysms, while the tongue and appetite indicated the almost entire disappearance of the gastric irritations, the cerebral symptoms having also totally disappeared, Dr. Jackson made a careful examination of the abdomen to ascertain whether some local point of irritation did not exist there. The right iliac region was found to be exquisitely painful on pressure—twenty-five leeches were applied to it in the afternoon.

23*d.*—No return of the chill and paroxysm of fever to-day—the tenderness of the iliac region less—expectoration of mucus—takes a

simple cough mixture—horehound tea—acidulated barley water—chicken water—flaxseed decoction to abdomen.

24th.—A slight chill and light fever to-day—feels stronger, and is improving. Treatment the same.

25th.—On the expected period of the chill, gave tinct. thebaic gtt. xx.—no paroxysm to-day—improving in strength.

26th.—Convalescing very fast—is cheerful—a number of furunculi have appeared where the leeches were applied—cough better—free expectoration.

27th and 28th.—Recovering rapidly—diet increased.

Observations.—Shearer, on her admission, had been under a tonic treatment, instituted from the paroxysmal type the disease assumed with her. At that time irritations had become diffused; they were seated in the stomach, the brain, the lungs, and the intestines; they were threatening to assume the chronic state, and the general forces of the system were wasting, with rapid loss of flesh. Active depletion was not admissible, nor was an energetic practice by powerful remedies to be attempted where so many organs were involved, and the prostration of the forces of the system so great. An expectant method was therefore adopted, aided by local means calculated directly to reduce the local morbid excitement of which the different organs were the seat. It is to be observed in this case, that very speedily on the cessation of the stimulant treatment, and by the use of cold applications to the head, and demulcent acidulated drinks taken cold, the brain and stomach were withdrawn from the circle of morbid lesions. Notwithstanding the paroxysmal type continued, and became even better defined, the intermission being more complete. It appeared to be maintained by the irritation of the lungs, and disease in the ileo-cæcal region of the intestines. When fevers assume the chronic state, they are generally maintained by a lurking irritation or inflammation in this last situation, and many of the fatal terminations are the consequence of ulcerations and disorganizations in this portion of the alimentary canal. This will be shown by dissections in a future report. In Shearer's case, the pain produced by pressure on the right iliac region was very acute and elicited from her strong complaints. As soon as the concealed enemy was discovered, it was attacked by leeches, and the amendment was immediate. I am under the impression that cups and a blister were applied to the chest; but they are not on the record.

Case VI.—Sarah Mullin, aged nineteen years, was admitted into the Philadelphia Alms-house Infirmary, on the 7th of November, 1817, when she stated her case as follows, viz.: she had very recently

arrived in the United States from Ireland, of which she was a native, in good health.

On the 5th of November, after having exposed herself to wet without shoes, and whilst perspiring freely, she experienced sensations of chilliness, accompanied with pain in the back and head—dyspnœa—oppression about the heart—sickness of the stomach, and violent pains in the abdomen. On the following day an emetic of tart. antim. was exhibited to her, which produced free vomiting, but without relief of her symptoms. A dose of Epsom salts succeeded, and after its operation she felt some relief. At the time of her admission she complained of pain in the head—pain between her shoulders—difficulty of breathing—palpitation of the heart—wandering pain in the extremities, and cramps of the muscles of the legs and feet. Her bowels were free. She was directed to be cupped over the forehead, to have lemonade for her drink, and to make use of hot pediluvia two or three times through the day.

10*th.*—She was transferred to the clinical ward. Still complained of some pain in the head, and some tenderness from pressure over the epigastrium. In the afternoon had a febrile paroxysm—tongue pretty clean—bowels regular—pulse firm—skin inclined to be moist. Treatment continued with the exception of cupping.

12*th.* Better—tongue only slightly furred—pain in the head inconsiderable—pulse regular—some tenderness of the epigastrium remaining. The treatment consists in the exhibition of lemonade and neutral mixture—to use hot pediluvia as a revulsive.

13*th.*—Morning. Improving—tongue broad, moist, only slightly furred—pulse slow and pretty firm—she appears to be convalescent. Afternoon. Complains of pain in the head darting across from one temple to the other. Directed to be cupped—to have sinapisms to her legs, and to have a hot pediluvium.

14*th.*—Improving—tongue nearly clean—pulse slow and soft—skin cool.

From this period she convalesced, her diet was improved, and she was discharged from the institution, in a short time after, cured.

Observations.—The above is a case of simple fever, the result of exposure to cold, while heated and in a free perspiration. The gastric, cerebral, and thoracic organs appeared to be the seat of the irritations that were excited. This case shows the facility with which recent and light affections yield to a simple antiphlogistic plan of treatment.

Case VII.—Margaret Curran, aged twelve years, sandy complexion. Four weeks previous to her attack, had arrived in good

health from Ireland. She had been exposed for some days to cold, and after the usual premonitory signs was attacked with fever. She was admitted into the infirmary on the 15th of January, 1827. At this time her symptoms were a smart fever—pulse tense and full—excessive and distressing pain in the head and limbs, tongue covered with a white fur, but moist—thirst—epigastrium not very sensible. Treatment—venesection ℥x.—senna and manna infusion—hot pediluvium at night.

16*th.*—Bowels have been freely opened—pain in head relieved—that of limbs diminished—the epigastrium has become sensible, as well as the abdomen generally—the tongue is dry, and the fur has assumed a brown aspect, approaching to black. Thirty leeches to epigastrium; blankets wrung out of hot water to extremities. Fomentations of decoction of flaxseed to abdomen. Gum water lemonade.

17*th*—Amendment of all the symptoms—continue treatment.

18*th* and 19*th.*—Continues to improve.

20*th*—Convalescent—milk and water gruel for diet.

21*st.*—Increase diet—discharged the ward well in a few days.

Observations.—Curran exhibited another instance, of which so many are observed amongst the lower classes of the effects of suffering from cold. The impression of cold continued for some time on the surface, induces direct debility of its vital forces and actions. The circulation of its capillaries becomes sluggish, or nearly ceases: this great reservoir of the circulating fluids no longer attracts and receives them into its vessels. By the diminution of its vital forces and its circulating fluids, they augment in other organs or tissues, and in those especially which were previously in a state of irritation or excitement, and in consequence, morbid irritations of various and sometimes of several internal organs and tissues, are the result of the action of cold on the exterior surface. Thus it may be productive of inflammation of the stomach, small or large intestines; of the liver or peritoneum; of the lungs, or the lining membrane of the bronchiæ, or pleura; of the brain or its meninges; and several of these inflammations may occur at the same period.

In Curran, we perceive gastro-meningitis, with rheumatic pains, were the consequence of exposure to cold thinly clad.

Previous to her admission she had been subjected to no treatment. The bleeding and purging dissipated the affection of the head, but the gastric symptoms increased. It is not improbable this was the effect of the purgative. Local depletion, and direct antiphlogistic remedies, however, removed immediately this excess of irritation, and a few days of diet produced rapid convalescence.

Case VIII.—Catharine Shane, aged eighteen years, entered the Alms-house, November 12th, 1826. She had recently arrived from Ireland, in a ship crowded with passengers, some of whom were sick on the passage. At the time of arrival she was in good health. When admitted into the infirmary she was in the fourth day of her disease. She was attacked with violent pain in the head, and sickness of stomach, with great soreness of the mouth. The symptoms at the time she entered the clinical ward, were, fever—pulse frequent and full—tongue dry, brown, with surface broken by fissures, edges cleaner than middle, but also dry—skin hot—tenderness of abdomen and epigastrium on pressure—several stools per diem of yellow colour and watery consistency. Cups were applied to abdomen and epigastrium.

13*th.*—Nearly same as yesterday—abdomen and epigastrium less tender. Directed her to take ℥ss. neutral mixture every hour during the paroxysm of fever—lemonade and barley water for drink. Three P. M. pulse frequent and irritated—tongue cleaner—very slight delirium.

14*th.*—No better—tongue dry and fissured, dark brown—pulse weak and irritated—suffused cheeks. Blisters to legs—

Antimon. Tart gr. $\frac{1}{6}$,
P. Ipecac. gr. $\frac{1}{3}$,
P. Opii. gr. $\frac{1}{3}$,

every two hours. Neutral mixture continued, with same drinks. Seven P. M. partial moisture—wandering in mind—picks at the bed-clothes—gets out of bed at times—tongue dry and fissured—pulse quick. Blister to back of neck—sinapisms to ankles.

15*th.*—Continues in same state—hair to be removed—sinapisms to feet—pulse frequent, 120, and weak.

16*th*—Rested better last night—delirium slight—seems better this morning—tongue cleaner on the edges—bowels opened by an injection. Evening. Pulse feeble—wine whey, ℥ss. every half hour.

17*th.*—Better—rested tolerably well, has more sensibility—complains of the sinapisms—expression of countenance more animated—respiration fuller and more natural—pulse frequent and has more force than yesterday. Wine whey continued.

18*th.*—Much worse—pulse frequent and feeble—muttering delirium—tongue dry, and covered with dark brown fur—restlessness—skin torpid. Carbonas ammoniæ every hour—wine ad libitum—sinapisms—blisters to different parts. All proved ineffectual in rousing the actions of the system, and she expired with a short agony early in the afternoon.

Remarks.—This case was not treated strictly on the physiological principles, and the deviation will be remarked by comparing it with the preceding cases. The patient entered the infirmary on a Sunday. With the existing symptoms, an active local depletion, if not general bleeding, it appears from the history of the case, would have been adviseable. From economical considerations, leeches are often omitted in the management of some cases in the Alms-house, and are substituted by cups. These last seldom answer in fevers with high gastric irritation. The pain they occasion, and the pressure they produce, often increase the gastric distress instead of alleviating it. I once witnessed convulsions brought on by the application of cups to the epigastrium, when very sensible in a case of fever. In the present instance they at least proved of no utility; no abatement of symptoms ensued from their application. A prescription was directed on the 14th with a view to an alterative and diaphoretic effect, for which last the neutral mixture had been prescribed. In fevers, in which the gastric irritation is exalted, attempts to excite the secretions by remedies of this character, prove most generally abortive.

Symptoms considered usually as indicative of prostration, very rapidly came on, and stimulants at first to the external surface, and next internally exhibited were called into requisition. Not the slightest momentary alleviation, which so frequently is induced by stimulants, and seem to sanction their employment, succeeded to their administration, and the patient sunk with rapidity. The body was removed by the friends of the deceased, and an examination, the only means of determining the nature and extent of the morbid lesions, was prevented.

This patient was not seen by Dr. Chapman.

The preceding are those of the cases of continued fever, that occurred during the last fall and winter, of which I am able to collect complete histories. In the next number I shall be enabled to present additional cases, accurately recorded, and accompanied with post mortem examinations, illustrating the character of the diseases, and the condition of the important organs, whence result the fatal terminations of fevers.

ART. VII. *Observations on Piperine, with the Formula for it Preparation, &c.* By GEORGE W. CARPENTER, of Philadelphia.

SINCE the discovery of quinine and cinchonine by the celebrated chemists, PELLETIER and CAVENTOU, vegetable chemistry has made rapid advances. The recent experiments upon vegetable matters have not only swelled the catalogue of useful articles, but have given an additional stimulus to the prosecution, and opened a rich field for investigation to numberless votaries. From a state of neglect and obscurity, this department of science has emerged with unparalled rapidity, to a most exalted position, and the numerous valuable discoveries which have resulted, have ranked it among the most important branches of chemical science.

Every vegetable substance in the materia medica that has yet been subjected to chemical analysis, has produced an elementary or alkaline principle, upon which the virtues and activity of the medicine entirely depend. Even opium which acts in the double capacity of stimulant and sedative, forms no exception to this observation, two principles having been extracted from it; one possessing stimulating, the other the sedative powers, as we have remarked in a former paper.

These isolated substances possess many and great advantages over the crude materials; the active principle is concentrated by the separation of the injurious and inert portions, thus obviating almost entirely the difficulty of exhibition, and facilitating a more speedy and certain action on the constitution. It is well known that many substances in their crude state, in consequence of their bulk and insolubility, cannot in many cases be administered in sufficient quantity to produce the desired effects; in such instances the alkali is well adapted as a substitute, the dose being comparatively small. Another and no less important advantage of the alkaline principles is the uniform persistency of their strength. No one will for a moment question the inconveniences and evils resulting from the great uncertainty of effects, and differences of activity in most of the crude materials; and some of the most important are subject to these defects. For example, there are twenty-five species of Peruvian bark, each one differing in strength. Bark even of the same species, from a difference in adventitious circumstances,* to which it is always exposed,

* See Carpenter on Cinchona, vol. 9, p. 363, of the preceding series of this Journal.

and which, though sometimes scarcely affecting its external characters always injures its properties, is rarely if ever found of uniform quality. In the preparation of quinine, I have met with bark of the same species, and of the same importation, differing twenty-five per cent. in the product of the active alkalies. The physician, therefore, would have been deceived in the strength and consequent effect of this bark, while the quinine is universally the same. For example, the quinine produced by the inferior bark, although less in quantity, was fully equal in quality. If the practitioner, therefore, may be so much deceived by the difference of strength of the same species of bark, how much more will he be disappointed, should he meet with those which produce but one-eighth or one-twelfth of the quantity, and some yield even but a trace of the principles upon which their febrifuge properties exclusively depend.

The preceding observations in support of concentrated medicines, are made in consequence of there being some few who disapprove of vegetable alkalies, and reject their use on all occasions, giving preference to the crude materials. If the opinions of these persons were drawn from experiments, they would certainly be entitled to credit and respect, but where an opposition is made to admitted facts, without advancing a reason, experiment, or authority of any kind, such denunciations can only be considered the effects of prejudice, and should be appreciated as such.

The object of the present communication is to describe a new principle, recently discovered in black paper, which has been denominated piperine, and which has been proved by careful experiments to be an active remedy in intermittent fevers, and has been employed with much [redacted]e also in typhus fever and periodical head-ache, and from [redacted]monials given in its support, seems to bid fair to become an i[redacted]nt addition to the Materia Medica. It may be employed in doses of from one to four grains—it has been given in several cases of intermittent fevers in doses of one grain, and was attended with as much success as the quinine. It is found to be a valuable adjunct to that substance, equal parts of each acting with more energy and success, than the whole quantity of quinine.

Black pepper in its crude state has long been known as a valuable medicine, and is stated to be an excellent adjunct to bark in intermittents, and Mr. Rennie* observes that Mr. Brande, must cer-

* See his Supplement to the Pharmacopœias of London, Edinburgh, Dublin, and Paris.

tainly be mistaken, when he says it acts only as a warm condiment, agreeable to the stomach.

It is mentioned in Dr. Coxe's valuable dispensatory under the article piper, that Dr. Frank, physician to her majesty Maria Louisa, recommends the black pepper, in different species of intermittent fevers. This had previously been used in the east with success after every known means had been ineffectually tried. The dose is five to ten grains twice a day, and Dr. Ghigini reports ten cases cured with it. Dr. Frank mentions seventy patients who came under his notice between April and June, of whom fifty-two had tertian, ten quotidian, and eight the quartan fever. Fifty-four were completely cured within about a week, without any subsequent relapse. He dips the seeds of the black pepper in a mucilage of gum Arabic and subsequently in powdered colomba to disguise it, and gives from five to eight pills twice a day. None of his patients required more than from seventy to eighty pills for a complete cure. Dr. Frank recommends the profession to try the extract of black pepper in intermittent fevers. This preparation was tried on nine individuals affected with intermittent fevers of different types in doses of four, eight, ten, or twelve grains dissolved in water in some cases, and given in the form of pills in others, by Dr. Clock, of Trent, and the effects surpassed his warmest expectations.

From these experiments it is concluded, that the extract of pepper is not only one of the best succedaneums for the bark, but that it is even preferable to it on several accounts:—1st. It never produces disturbance in the stomach or bowels—2d. It never failed in producing a cure—3d. Those who were cured did not in any one instance experience a relapse—4th. It produces a regular alvine discharge, as well as the excretion of [redacted] sweat—5th. None of those who were cured experienced that [redacted]tion of languor, so common to a state of convalescence.*

In the Bulletin des Sciences Medicales for April, 1826, there is an account of three cases treated with piperine, by Dr. S. Gordoni, physician to the hospital at Leghorn. The first case was one of double tertian intermittent fever, which for a long time resisted the use of quinine, and although this remedy eventually arrested the paroxysms, whenever it was discontinued the disease returned; the piperine was then resorted to, and the fever ceased on the first day, and did not return. The second and third were also cases of intermittent fever, they

* Giornale de Chirurgia Practica.

were promptly cured by the piperine. From these, and many other cases, Dr. Gordoni infers that the piperine will cure fevers that resist the sulphate of quinine, and that it will prevent a relapse better than this latter remedy.

Dr. MELI has also employed the piperine with success, and considers it a more certain remedy in intermittent fever than the sulphate of quinine.*

Dr. J. S. ROSE, who was the first to use the piperine in this city, informs me that he has employed the piperine which I prepared, in twenty cases of intermittent and remittent fevers, and that he is decidedly of opinion that it will be found to be a more certain and efficient remedy than any preparation of bark heretofore used.

"I have also used it," he adds, "in two cases of low nervous fever, or typhus. I was induced to employ it in these cases, from observing that in intermittent it did not prevent all the stages of the paroxysm. At the time the patient expected his chill, he found a gentle diaphoresis, which continued to increase for two, three, and in some cases for four hours; on the next day, however, (of the expected return,) there was nothing like diaphoresis or fever, the patient passed this period without the least inconvenience, and remained exempt from a relapse, which is not always the case after the use of quinine. These facts led me to believe, that in typhus, when we wish a stimulating diaphoretic, no remedy is preferable for that purpose to the piperine, not even volatile alkali. In this form of febrile action when the animal powers are about to yield to the influence of disease, and the patient fall a victim to the timidity of the practitioner, I have boldly withheld all other remedies, and administered the piperine in doses of two grains every two hours until eight grains had been taken, the low muttering delirium now began to subside, the skin became moist, and the patient sensible of his improvement expressed himself better. On the following day, the same doses were administered, and repeated for three, four, or five days, when I found no fever, the strength increased, and the patient with an inclination for food, and convalescent."

The piperine has also been used by Dr. J. C. ROUSSEAU of this city, in a few cases, in all of which it has been successful. He has favoured me with the following cases which are interesting, as it shows the necessity of caution in prescribing the remedy in large doses.

"A young girl, about twelve years of age, having had a return of an intermittent fever that had been stopped by the sulphate of quinine, was directed to take one grain of the piperine, made into a pill with conserve of roses. She was a short time after seized with a vomiting, which was repeated to the number of seven times in the space of two hours. It then began to promote alvine evacuations to the extent of twelve or fifteen times. The fever did not return,

* Ainslie's Materia Indica, Vol. II. p. 622.

and she was directed to continue one grain of the medicine night and morning. It invariably produced alvine discharges in an unusual quantity.

"In another case, a subject of about forty, it produced a radical cure in the dose of three grains in twenty-four hours, continued for several days after. And it is so much the more remarkable as this patient had taken the sulphate of quinine for some days in the quantity of thirty grains every twenty-four hours, as he informed me, remarking at the same time, that during the use of it he was under a most violent and painful state of excitement."

I have just received the following case from my friend, Dr. J. R. Black, of Philadelphia: it affords additional testimony of the powers of the piperine in the cure of intermittent fever.

"Mr. S. aged about forty years, during the first part of last month, applied with a severe quotidian fever, attended with rejections from the stomach, and with violent pain and great determination of blood to the head, during the hot stage, with cold feet and slight delirium.

"The case was treated with the lancet, emetics and purges, which, on the third day, changed its type to the tertian. On the day of intermission sulphate of quinine was administered, which was often rejected, while it always increased the patient's nausea and head-ache. Piperine, (prepared by Mr. Carpenter,) was substituted in doses of one grain every hour to the number of ten a day. The paroxysms immediately ceased, and the patient in a few days was discharged radically cured. J. R. B."

Many other cases might be quoted, in which this medicine has been employed with equally happy results, but enough has been advanced to satisfy the most sceptical of its active properties.

Alcohol and sulphuric æther are the best menstrua for the active properties of the pepper, which very soon imparts its acrimony to these fluids. Mr. Brande gives alcohol and water. I am surprised he should have omitted æther, since it is the most powerful solvent, and particularly, that he should quote water, as it requires five hundred and fifty pints to extract the sapidity of ℔j. of pepper. Water indeed appears to rank lowest as a solvent of the active part of the pepper, while it is the best solvent of the colouring matter, for after the pepper has been exhausted of its sapidity by æther and alcohol, water will make a deep-coloured solution, which, on evaporation, will produce a dark extract, possessing little of the pungency of the pepper.

The piperine employed in the above cases I prepared according to the following formula:—

Digest one pound of coarsely powdered black pepper in one gallon of alcohol for ten days, distil off one-half of the alcohol in a water bath, add by degrees diluted muriatic acid to hold in solution the piperine, then add water sufficient to precipitate the resin and separate the oil, a muriate of piperine remaining in solution, concentrate

this solution by evaporation, and add pure potass to decompose it, and neutralize the acid, when the piperine, in consequence of the diluted state of the alcohol, and the absence of the muriatic acid, will be deposited in yellowish transparent crystals—the crystals may be obtained perfectly colourless, by carefully separating the oil and resin, but as there is no disadvantage in the colour, the additional trouble and expense would not be compensated. The piperine in a colourless state is insipid and inodorous, but united with as much resin as enters into its crystallization, its taste is extremely hot, possessing in an intense degree all the pungency of the pepper, with a considerable portion of its odour, and I think, is more active than the former; it was in this form exhibited in the treatment of the cases above described.

The crystals were perfectly transparent, tetrahedral prisms, with oblique summits of a straw colour, and as large as the ordinary crystals of sulphate of magnesia.

Extract of Black Pepper.—Digest eight ounces of black pepper coarsely ground, in four pints of diluted alcohol for four days, occasionally submitting it to a temperature near ebullition in a water bath, filter and evaporate to the consistence of an extract.

This is found also to be an active remedy in intermittents in doses of two or three grains. In a soft state it has proved very convenient to give consistency to piperine and quinine for the formation of pills, while at the same time it increases their activity, (particularly that of the latter.) It is certainly preferable to conserve of roses or gum Arabic, as they enlarge the pill without increasing its effect.

The extract of pepper, in every formula I have seen, has been directed to be prepared with water. This forms a much less active preparation, and possesses several inconveniences, to which the former is not subject.

I have used both the white and black peppers in the above preparations, and although it is stated by most authors that the white is milder than the black, I have found it to yield more piperine, and an extract of much more acrimony and activity, and to contain much less colouring matter.

The constituent principles of pepper are piperine, oil, resin, fecula and colouring matter.

The oil of black pepper is a most powerful article, and has not as yet been employed in medicine, it may prove a valuable stimulant.

The several preparations above described may be procured of Charles Marshall, Druggist, No. 231, Market street, Philadelphia.

ART. VIII. *Medical Statistics: being a Series of Tables, showing the Mortality in Philadelphia, and its immediate Causes, during a period of twenty years.* By GOUVERNEUR EMERSON, M. D.

IN the investigation of human affairs, and the various circumstances which relate to and govern them, statistical calculations, by giving distinctness to views, and accuracy to conclusions, have been found eminently useful. Applied to subjects connected with medicine, at present the most uncertain of the sciences, they may prove of essential service, especially to the branch of public hygiene, as by demonstrating the existence of evils they may lead to a removal of their causes, and serve as a test by which to determine the success or inefficacy of the measures resorted to for that purpose. They may likewise become useful as a means of estimating the comparative value of those systems of medicine, which from time to time succeed each other. Indeed, such an application of medical statistics has already been made in Europe; but the warmth and obstinacy which at this time, distinguish the doctrinal controversies of rival sects, may justly be considered as productive for the most part, of partial views and suspicious conclusions. Estimates upon these subjects should therefore be received with much caution, unless when made by such as are known to owe neither allegiance to, nor bias for, a particular party, or who possess so ra[illegible] a degree of candour, as to enable them to state facts without partiality or concealment.

The following calculations were projected for the support of no preconceived speculations or opinions, but undertaken solely for the purpose of ascertaining those results which naturally flow from them. Many of these will be found extremely interesting, especially such as relate to the comparative mortality of different diseases, the ages at which they most frequently prove fatal, and the mean duration of human life at this epoch in Philadelphia.

Many places possess certain peculiarities, capable of exerting more or less influence upon calculations of this nature, and which can only be well understood by persons very familiar with them. For this reason it has been thought most adviseable to avoid making formal comparisons with the statements of other cities, and to confine the sphere of observation in the present article, altogether to the locality of Philadelphia, a compendious history of the mortality, with observations upon many of the diseases of which, will be found in the following tables, since the year when the subject was first made one of regular record. The date of this interesting event extends no further back

than the year 1807, when through the influence and exertions of Professor JAMES, the first authentic bill of mortality, for the city and suburbs of Philadelphia, was formed and published. No interruption has since taken place in these annual reports, which from time to time have had new interest imparted to them, by the addition of other particulars; such, for example, as the distinction made between males and females, the designation of colour in the deceased, and the account of births.

The authenticity of the Philadelphia bills of mortality may be regarded as resting upon very solid grounds. From authority vested in the Board of Health, this municipal power makes it obligatory upon physicians to give certificates designating the name, age, and sex of all who die under their care, and sextons are bound by still heavier penalties, not to permit the interment of any dead body, until such certificate is obtained, which he returns to the health office on the last day of every week, for publication.

The accuracy with which the diseases are designated in these certificates rests chiefly upon the general intelligence of the medical profession in this city, the members of which are very much in the practice of testing their pathological opinions by autopsical examinations. Further evidences of fidelity in this respect are afforded by the general agreement of the different bills of mortality with each other, and the variations exhibited by certain diseases in correspondence with the influence of well known agents. That many errors, and much vagueness exist in regard to particular details, must be evident to every one well versed in the medical science of the present day. The heads of debility, decay, atrophy, marasmus, consumption, (as an infantile disease,) may be cited as affording the most frequent examples of misrepresentation, but still, the correspondence subsisting between the annual returns, is sufficient to show that the affections even thus reported depend upon the continued operation of some uniform causes.

For the purpose of ascertaining the number born, the various practitioners of midwifery are required to render an account at the Health Office of all births. With regard however to this department, there is some reason to suspect a deficiency in the returns, especially from the outskirts of the city and liberties. But the registry of the dead has, for the most part, been kept with a care and fidelity creditable to those who have had its superintendence, and especially to the present clerk, who, for the last ten years, has conducted its details.

General Observations on the Topography and Climate of Philadel-

phia.—The city of Philadelphia lies in north latitude 38° 57′, and longitude 1° 54′ east from Washington.* It is situated on the western shore of the river Delaware, and extends over slightly elevated ground about two miles to the banks of the river Schuylkill, five miles above its confluence with the Delaware. The last named river is about a mile wide at the town, and has sufficient depth of water to admit ships of a very large burthen, whilst the Schuylkill, on the other side, is navigable for sea vessels of moderate draught. The tide in the Delaware rises, on an average, to the perpendicular height of about seven feet. The water continues fresh for more than fifty miles below the city. Its distance from the Atlantic ocean, by the natural course of the river and bay, is about one hundred and twenty miles, but not more than fifty-five miles by a direct line in an easterly direction.

The portion of the isthmus on which the town stands, is of the tertiary formation, consisting of sand and gravel, for the most part overlaid with a thick stratum of clay, the whole resting upon a primitive basis. That it was once covered by the sea, is clearly shown by the marine deposits, consisting of bones, teeth, shells, &c. found below the natural surface. Vegetable relics have likewise been met with. A few years since hickory nuts were discovered in digging a well at a depth of more than 30 feet. In one of the highest points of the city plot, the trunk of a buttonwood (Platanus occidentalis) was found imbedded in a black mud, and surrounded by acorns and leaves.

By digging at various depths, water is easily obtained in every part of the city and suburbs. Near the river it may be procured within ten or twelve feet of the surface; its depth in other parts is usually about thirty feet. Its qualities were excellent before the city became so populous, and its sources were contaminated by infiltrations. At present, an abundant supply of most wholesome and palatable water has been introduced from the Schuylkill.

The climate of Philadelphia, appears to have partaken in the change which of late years has been noticed in most parts of the country. This variation is most strikingly manifested as respects the intensity and duration of the cold weather. It has been observed, that during the last century, the winters were more uniformly cold and the rivers more completely and for a longer time obstructed, than at present, when it often happens that the ice does not become stationary on the Delaware through the whole season, and when it

* Or 75° 8′ 45″ west from Greenwich.

does become fixed, seldom remains so longer than a few days. We find it recorded that in 1704, snow fell three feet deep, and in the winter of 1779–80, the Delaware continued frozen for three months. Moreover, that in 1764, 1791 and 1797, this river was completely frozen in one night, so as to be passable the next day. Instances of such intense cold have not occurred within the present century.*

From an examination of the records of the *Rain Gage*, kept at the Health Office, in a central part of the city, it appears that, from March 1820 to February 1827, inclusive, a period of seven years, the average quantity of rain for the seasons is as follows: For the three months of Spring 8.29 inches—Summer 9.54 inches—Autumn 10.54 inches—Winter 8.15 inches.

The greatest quantity which fell during that time, in the twenty-four hours, was four inches on the 3d of October, 1820. The largest quantity in forty-eight hours was 5.65 inches, on the 3d and 4th of the same month, in the same year.

The prevailing winds throughout the year are from the westward. Viewed according to the seasons, it may be observed, that in the Spring and Fall, the winds are more variable than during the rest of the year. Their tendency in the Spring and Summer, is more from the eastward than at other seasons. During Summer they usually come from the westward and southward, but in winter from the westward and northward. When easterly winds prevail, they generally proceed from a northernly direction. Cloudy and rainy weather are their common attendants, the weather usually clearing away by their shifting first to the southward, and then to the west or northwest, from which points they often blow with great violence.

Observations on the Tables.†

Table I.

This table presents a series of observations made on the climate of Philadelphia, during ten years, viz.: from 1811 to 1820, inclusive; showing the changes of temperature indicated by Fahrenheit's thermometer for each month, and season of that period. It is formed from

* For more minute information relative to the temperature of the weather in particular months and seasons, see Table I.

† These are by no means intended to embrace all the views worthy of notice which the tables develope, and doubtless many more of equal, and perhaps greater interest will present themselves to others who examine them.

observations originally published in the Eclectic Repertory, and though not continued to so late a date as would have been desirable, still on account of the regularity and accuracy with which they were conducted, we have chosen them in preference to any more recent ones with which we are acquainted. From these observations, it appears that the mean temperature of the months estimated from an average of ten years is, for January, 30°—February, 32°—March 48°—April, 50°—May, 59°—June, 71°—July, 75°—August, 72°—September, 65°—October, 55°—November, 46°—December, 34°.

The average mean temperature of the seasons is as follows, viz. The three months of Spring, 50°—Summer, 73°—Autumn, 55°—Winter, 32°.

The lowest fall in the thermometer observed in the above mentioned period at eight o'clock, A. M. was 4° above zero, on the 15th of February, 1817. The highest rise in the same time at three o'clock, P. M. 97° on the 12th of June, 1818.*

Table II.

Is an abstract from the census of the city and county of Philadelphia, taken in 1820, by order of the general government, showing the number and description of inhabitants in the wards and districts, from which returns of interments are made.

The observations we shall offer upon this subject, will be directed in the first place to the white population.

In this the proportion of the sexes is as 111 females to 100 males, a disparity which has been attributed for the most part to the greater risks of life encountered by the male sex in their various occupations and pursuits.† In proof of this we find from an examination of the table that the number of males under ten years of age exceeds that of the females; but when the estimate is continued so as to embrace

* It is to be regretted that the Philadelphia bills of mortality furnish no precise data, by which a table can be formed, to show the deaths per month by the *principal diseases*, and thus exhibit the immediate influence of the seasons upon their mortality. Interesting calculations made for other places show that chronic complaints are not much affected by such influence, which is chiefly displayed upon the acute forms of disease.

† The average proportion for the whole United States, is, however, very different; namely, 97 females to 100 males. In the new States, the excess of males among the children is observed to be very great. In Alabama, Illinois, Missouri, Mississippi and Indiana, all of which have been lately settled, there are 76,067 boys, and only 70,033 girls under ten years of age; that is, at the rate of 100 boys to 92 girls.

the sixteenth year, the balance is considerably in favour of the females, the males having in the mean time been reduced by the operation of the above mentioned circumstances.

The relative proportion existing between the sexes under ten years of age, is about 3.3 per cent. in favour of the males; but when the estimate is made to include those under the sixteenth year, the females are found to be the most numerous in the proportion of 2.4 per cent.

The females under the 26th year exceed the males under the same age, in the ratio of 8.8 per cent. Under the 45th year, the excess of females is 9.1 per cent., or as 100 females to about 90.9 males; whilst the excess of females of and beyond this age is nearly 26 per cent., or at the rate of 100 women to only 74 men.

With regard to the *black* population, an estimate of all ages shows the relative proportion of the sexes to be 100 females to 71 males. Under the 14th year, the proportion is equal, but when the estimate is extended so as to include all under the 26th year, the females exceed the males 30 per cent.; that is, at the rate of 100 females to 70 males. Reckoning all under 45, the excess of females is 28 per cent., or as 100 to 72; but in the amount of the sexes of 45 years and upwards, the number of females exceeds that of the males nearly 31 per cent.; that is, for every 100 women there are only 69 men.

The following statement affords a condensed comparative view of the proportion of the sexes at various periods of life:—

	WHITES.				BLACKS.			
Under 10*	100 males		to 96.7 females.					
Under 14					100 females to 100 males.			
Under 16	100 females to 97.6 males.							
Under 26	100	do.	to 91.2	do.	100	do.	to 70	do.
Under 45	100	do.	to 90.9	do.	100	do.	to 72	do.
Of 45 and upwards	100	do.	to 74	do.	100	do.	to 69	do.
Proportion of all ages	100	do.	to 89	do.	100	do.	to 71	do.

The number of whites of and over 26, is 39,335 } Being in the proportion of 56 of and over 26, to 100 under that age.
under 26, 70,050 }

The number of blacks of and over 26, is 5,191 } Or, as 84, of and over 26, to 100 under that age.
under 26, 6,193 }

The number of whites of and over 45, is 12,739 } Or, as 13.3 of and over 45, to 100 under that age.
under 45, 96,646 }

The number of blacks of and over 45, is 1,381 } Or, as 13.1, of and over 45, to 100 under 45.
under 45, 10,003 }

* The blacks under 10 and 16, and the whites under 14, are not designated in the table.

Table III.

This table exhibits the number of deaths in the city and suburbs of Philadelphia, for each one of a series of twenty years, viz: from January 1st, 1807, to January 1st, 1827, inclusive; showing at the same time those which occurred from the most prevailing diseases.

From the amount of every year, as represented in this table, the number reported in the bills of mortality under the head of *still-born*, are excluded, as never having possessed a proper existence; a rule applicable to all the subsequent statements unless otherwise specified. Their numbers appear in a separate column, and it may be well to remark here, that in the public records of Philadelphia, no discrimination is made between the abortions of the first months of gestation, and the premature and dead-born of the latter periods, which, with perhaps a very few exceptions, are disposed of in the numerous burying grounds throughout the city and suburbs, and reported with other interments at the Health Office. That the bills of mortality may in future show the proper distinctions to be made under this head, it would be well for the Board of Health to issue suitable instructions. Until some regulation for this purpose is adopted, the large numbers of still-born reported may serve, at least with superficial observers, to cast a shade of reproach upon the females and medical profession in Philadelphia.

The highest number of deaths for one year, contained in the series, is 4372, in 1823; the lowest number is 1884, in 1809. The amount for the first ten years of the series is 20,585; for the remaining ten years 32,419. The total number of deaths for the whole time is 53,004.

The prevalence and fatality of particular diseases in different years, is strikingly exemplified in this table. Under the head of *Diseases of the Lungs*, the variation from year to year is chiefly observable in the column of *Acute affections;* whilst the annual proportion from *Consumption* seems to have advanced at a steady step with the progress of population. The highest number of deaths by this disease in one year is 587, reported in 1826; the lowest number 216, in 1813. The whole mortality by consumption in twenty years, is 7977.

Under the head of *Acute Diseases of the Lungs*, the deaths reported in the bills of mortality under the various titles of Pleurisy, Inflammation of the Lungs, Breast and Chest, are included. The greatest mortality for one year exhibited in this column, is 222, in 1826; the lowest 61, in 1813. The number for the whole series, is 2284; which, added to the amount from consumption, gives a grand total of 10,281 deaths in twenty years from *Diseases of the Lungs.*

Under the head of *Fevers*, which in this table includes only

those of most frequent prevalence, striking fluctuations are observable in all the columns. That which contains the totals, shows a steady increase with the progress of time and population, until the year 1818, when the amount rises to 492, chiefly produced by the prevalence of a bilious fever, of a typhoid and highly mortal character, almost exclusively confined to the blacks inhabiting the narrow streets, courts and alleys of the south-western parts of the city and suburbs.* The still greater increase observable in the succeeding years, until the amount in 1823, is no less than 744, depends upon causes of an entirely different nature, which, as they have seldom or never been known to exist to the same extent before in this city and its vicinity, must be regarded as constituting an extraordinary and casual event.† The bill of mortality for the year 1820, was the first that swelled from the effects of this epidemic, which spread throughout the neighbouring country on all sides, and encroached upon the outskirts of the town, but rarely showed its influence upon the interior parts. Indeed, as I formerly stated in noticing the same subject, it was curious to observe how accurately the invasions of the sickly air during the summer and fall months, were limited by the pavements, few or none of those who kept within them, having been affected with what acquired the popular designation of *Country Fever.*‡ Strange as it may appear, the atmosphere of the city proper was seldom more free from the *causes* of disease, than during the years wherein the bills of mortality exhibited the greatest number of deaths. With the view of ascertaining as far as practicable, the comparative healthiness or unhealthiness of the city and suburbs, the Board of Health issued, in 1823, circulars to the physicians, requesting them to note in their usual certificates of mortality, the districts in which their deceased patients had resided. This measure, though adopted late in the season, clearly proved that the proportion of interments was as anticipated, much smaller for the city than for the suburbs, as the following short statement will clearly show.

The number of interments reported at the Health Office, were from—

* For a particular description of this singular epidemic, see the Philadelphia Journal of the Medical and Physical Sciences, vol. 3. p. 193.

† The fatality of this epidemic may in some measure be judged of, by comparing the sum of the first ten years of the series of totals in the column of Fevers, viz: 1540, with that of the last ten years, which is 4580!

‡ See the Philadelphia Journal of the Medical and Physical Sciences, vol. viii. p. 146.

August 9th to the 16th - -	130	Of which there were from the city	53
16th to the 23d - -	113	do.	48
23d to the 30th - -	129	do.	50
30th to Sept. 6th - -	112	do.	45
Sept. 6th to the 13th - -	137	do.	68
13th to the 20th - -	115	do.	15
	736		274

In the two hundred and seventy-four deaths reported from the city, sixty-five, or more than a fourth were from the Alms-house, which at that time was crowded with paupers, chiefly from the suburbs.

Cases of the prevailing remittent and intermittent fevers, were however, to be met with in all parts of the city proper, but their origin could nearly always be traced directly to the air of the country or outskirts of the town, a short exposure to which in the evening or night was sufficient to give rise to those diseases.

In the column designating the deaths by typhus, we observe that the epidemic seems to have terminated in that form more frequently in 1823 and 1824, than in other years. It is to be regretted that so many instances are reported, wherein the type is left undesignated, as for example, in 1823, where the particular character of two hundred and forty-three cases of fever which terminated fatally in that year cannot be ascertained.

We are happy in being able to state that at this time, the sources of the disease appear exhausted, as the present season has proved unusually healthy. This we have it in our power to demonstrate very clearly, by a reference to the records of the Philadelphia Dispensary, from which we make the following estimates of the number of applicants, to that institution for medical relief in several years, during the month of August, the most sickly of the season.

Years.	1823.	1824.	1825.	1826.	1827.
Patients.	694	347	363	310	264

The column showing the deaths by *yellow or malignant fever*, presents the highly interesting fact, that for the last twenty years, the whole mortality amounts to only one hundred and twenty-two, of which number seventy-three occurred in 1820. This statement will perhaps excite no little surprise at home, and doubtless be greatly dis-

credited abroad, but may nevertheless be relied upon as correct. That the amount should appear to most persons less than they would expect, is probably owing to the high degree of alarm which usually attends the appearance of a single case of yellow or malignant fever, and magnifies the occurrence, by association with former epidemics, to a fearful extent.

The column of *totals* under the head of *Inflammations*, shows a steady increase in the phlegmasiæ, with that of population, the variation in the whole series running between four hundred and forty-seven, in 1826, the highest extreme, and one hundred and thirty-eight in 1809, the lowest number. The amount for the whole series is four thousand seven hundred and fifty-eight.

Of *Inflammation of the Brain*, the greatest number of deaths reported for any year, is sixty-six in 1824. The lowest eight, in 1813. The whole amount for twenty years is five hundred and eighty-three.

As might be expected, the fluctuation is much greater in the column of inflammations of the *Lungs and Chest*. The highest number of these is two hundred and twenty-two, opposite the year 1826. The lowest, sixty-one, in 1813. The amount for the whole series is two thousand two hundred and eighty-four.

No very great variation is observable in the column embracing inflammation of the *Stomach, Bowels and Peritoneum*, the highest number of which for any one year is one hundred and nineteen, in 1824; the lowest twenty-nine, in 1807. The whole number for the twenty years is one thousand two hundred and ninety-one.

Of inflammations of the *Liver*, the highest amount is fifty-four, in 1826; the lowest nine, in 1807. Total for the whole series, five hundred and eighteen.

With regard to the columns representing the deaths by other phlegmasiæ, such as inflammation of the *Heart, Pericardium, Spleen*, &c. there is little worthy of observation, except, that as these are not to be found in the early bills of mortality, they must either have become more frequent of late years, or been designated with greater care.

In the column of totals, under the head of *Dropsies*, the sums vary between two hundred and seventy, in 1825, the highest extreme, and ninety-eight, in 1813, the lowest number. The whole amount for the series is three thousand four hundred and seventy-four.

The greatest number per annum of *Hydrocephalus*, is one hundred and forty-seven, opposite the year 1823; the lowest thirty-eight,

in 1813. The whole amount of the series is one thousand six hundred and two.

The column of *Dropsy of the Chest*, presents a greater annual fluctuation than any other under the general head, varying between the extremes of forty-seven in 1823, and five in 1818. The amount of the whole series is five hundred and twenty-one.

The *undesignated dropsical* affections reported annually, consist, with perhaps very few exceptions of *Anasarca* and *Ascites*. They vary between one hundred and thirty-one, in 1819, the highest, and thirty-five, in 1814, the lowest number. The whole series amounts to one thousand three hundred and fifty-one.

Under the head of *Bowel Complaints*, great variation is conspicuous in all the columns. In that containing the annual totals, the highest number is five hundred and sixty-two, opposite the year 1823. The lowest, one hundred and fifty-three in 1816. The amount of the whole series is six thousand two hundred and eighty-nine. The fact that much the highest number of deaths from these affections occurred during the greatest prevalence of the epidemic remittent and intermittent fevers, shows how much all these diseases depend upon the same kind of atmospheric constitution.

In the column containing the deaths per annum of *Cholera*, the sums vary considerably, the highest number being two hundred and sixty-five, in 1823, and the lowest ninety, in 1816. The whole series amounts to the formidable sum of three thousand eight hundred and twelve.

The annual reports of deaths from *Diarrhœa and Dysentery*, are so nearly alike in respect to numbers, that they have both been placed in the same column, the different sums of which vary almost as much as those of cholera. The highest number is two hundred and ninety-seven, in 1823; the lowest forty-four, in 1812. The whole amount for the twenty years, is two thousand four hundred and seventy-seven, making, when added to those from cholera, the total amount of deaths from *Bowel Complaints*, six thousand two hundred and eighty-nine.

The number of deaths reported annually under the head of *Convulsions*, seems to have steadily increased with the progress of population. The highest number for one year in the whole series, is three hundred and sixty-eight, in 1824; the lowest one hundred and twenty-seven, in 1807. The amount for the twenty years is three thousand, seven hundred and thirty-one.

Of *Croup*, the greatest mortality per annum is eighty-nine in 1820; the lowest number in the series, twenty. The total amount of deaths in the twenty years, is one thousand and forty-one.

The column showing the deaths by *Hooping Cough*, exhibits great fluctuation. The highest number in a single year, is one hundred and fifty-one, in 1819; the lowest, six. The whole amount in twenty years, is eight hundred and five.

The number of deaths reported from *Measles*, shows, as might be expected, great variations from year to year. In seven years of the series, no deaths were reported from this disease. The highest number is one hundred and fifty-six, in 1823; the lowest, one. The total amount for twenty years, is six hundred and sixty-seven.

With regard to *Small-Pox*, we find, as in the case of measles, seven years out of the twenty, wherein no deaths by it were reported. The greatest mortality in any one year, occurred in 1824, when the number of deaths was three hundred and twenty-five. The next highest number is one hundred and sixty in 1823. The amounts of other years vary from these to only one. The total for the twenty years is one thousand and eighty, the proportion of which is about twenty, out of every thousand deaths by all diseases.

Although the greatest mortality from this loathsome distemper took place at a time when it might have been supposed that few or none remained unprotected, still the amount for so long a period furnishes a pleasing comment upon the experience of former times. It has been estimated, that during the first thirty years of the eighteenth century, the number of deaths from small-pox in London, was seventy-four out of every thousand: and during an equal period at the close of the same century, the amount had increased to nearly one-tenth of the whole mortality. This multiplication has been ascribed to the introduction and practice of inoculation, which, although esteemed one of the greatest improvements ever introduced into the medical art, had, by leading to a more extensive circulation of the contagion, actually promoted the ravages of the disease it was intended to ameliorate. How striking the contrast between these consequences and those resulting from the substitution of vaccination.

Under the head of *Asthma* the sums representing the annual number of deaths vary from twenty-one, in 1825, to four, in 1808. The whole amount of the series is two hundred and five.

The column containing the deaths by *Apoplexy*, though very well filled, is perhaps entitled to many more, since it is highly probable that many reported as sudden, were from this cause. An examination of the table, showing the ages at which the deaths under this last head took place, presents such a correspondence with those which occurred from apoplexy, as almost to confirm the observation.

The greatest number recorded under this head for one year is sixty-one, in 1825; the lowest seventeen, in 1812. The amount for the whole series is eight hundred.

The numbers in the column headed *Palsy*, vary between forty-seven, in 1824, the highest, and ten, in 1810, the lowest annual amount. The total of the whole series is five hundred and forty-eight.

It is gratifying to observe under the head of *Insanity*, that the proportion of deaths by it has not kept pace with the progress of population, since the amount in the last ten years is not even so great as that during the ten preceding. The highest number in any one year is forty-one, in 1818; the lowest thirteen, in 1809. The whole amount for the twenty years, is five hundred and fifteen. It should be observed, that the number of deaths under this head, is probably much beyond the fair proportion to the population of this city, since a very large amount of the patients in the Pennsylvania Hospital, the principal receptacle for the insane within the limits to which our statements are confined, have been brought from a distance.

The head of *Drunkenness*, for various reasons, presents us with but an imperfect criterion whereby to judge of the deplorable extent of the evil. In the first place, many die from diseases induced by this species of intemperance, whose deaths are reported under the name of those diseases. Oftentimes too, the physician from a regard for the reputation of the deceased or respect for the feelings of the relatives, has been induced to report the death under some other designation, substituting for example the name of a symptom. In this way it happens, that few cases are reported from direct drunkenness except such as occur in the most destitute and abandoned. The deaths by mania a potu, having for the last five years of the series been returned separately, are placed in the column of drunkenness, with their number designated in a maginal note. The whole amount is 558.

Suicide appears to have become less frequent of late, as the amount for the last ten years of the series is only four greater than that for the first ten, notwithstanding the increase of population. The greatest number which occurred in any one year, was thirteen, in 1826. The amount for the twenty years is 102.

Under the head of *Cancer*, a steady increase is manifested, in running down the column. The highest number of deaths reported by it in any one year, is 23, in 1820; the lowest 4, in 1812. The number for the twenty years amounts to 272.

In the column headed *Gravel and Stone*, the diminution of

deaths is very obvious and highly gratifying. Whether this is owing to greater exemption from these diseases, increased professional skill, or to both, might afford an interesting subject for inquiry. The greatest number of deaths from these affections recorded for any one year, is five, in 1813. In 1820 and 1822, there are none reported. In 1823, one. The whole number in the twenty years is forty-six, of which only twenty have occurred within the last ten years.

The column headed *Parturition and Childbed*, although it may contain some few deaths by puerperal fever, does not embrace those reported under that title, the number of which will be found in other tables. Considerable fluctuation is observable in the yearly reports of these casualties, the highest number being twelve in 1807. For three years, viz: 1818, 1819, and 1823, no deaths were reported under this head. The whole number for the series is ninety, only thirty-eight of which have occurred within the last ten years. This, supposing all the casualties included except puerperal fever, would imply an improved state of the obstetric art.

The amount of deaths reported annually under the head of *Epilepsy*, varies from eighteen, in 1820, the highest number, to three, in 1813 and 1817, the lowest of the series. The whole amount is one hundred and seventy-five.

Table IV.

This table presents a summary of the deaths in Philadelphia for each month in a series of twenty years, with the number of adults and children designated. In the number of the latter, the still-born are included according to the usage of the Board of Health in their annual reports, it having been found impracticable to make an accurate monthly estimate of them for deduction. The nearest approach we can probably make to their numbers, is by reckoning them at about five per cent. of the sums stated for children, that being an average proportion for ten years.

Estimating the deaths in the whole series for the different seasons, we obtain the following results, viz:

	Adults.	Children.
In March, April and May, - -	7229 -	5264
June, July, and August, - -	7606 -	9462
September, October, and November,	7545 -	6369
December, January, and February,	6909 -	5153

The months according to the mortality of both adults and children,

stand thus, beginning with the highest:—1st, August; 2d, July; 3d, September; 4th, October; 5th, June; 6th, March; 7th, April; 8th, November; 9th, January; 10th December; 11th, May; 12th, February.

Arranged according to the greatest mortality of *adults* alone, they take the following order:—1st, August; 2d, September; 3d, October; 4th, April; 5th, March; 6th, July; 7th, January; 8th, November; 9th, June; 10th, February; 11th, December; 12th, May.

According to the greatest mortality of *children*, thus:—1st, August; 2d, July; 3d, September; 4th, June; 5th, October; 6th, March; 7th, November; 8th, December; 9th, January; 10th, April; 11th, May; 12th, February.

It is interesting to compare one of the results presented by this table, with calculations made in England, where the proportion of old persons who die during cold weather to those who die during the warm season, has been estimated at 7 to 4. The whole number of deaths of all ages is greatest in the months of January, February and March; and least in June, July, and August; which, it will be seen, is widely different from what takes place in this part of America. The results in both countries are, however, at variance with the observations of Celsus, who, in treating upon the comparative salubrity of the different seasons in his time and country, says:—"Saluberrimum ver est; proxime deinde ab hoc hiems; periculosior æstas, autumnus longe periculosissimus."

Table V.

This table shows the ages at which the deaths from particular diseases occurred. The titles of the diseases have been copied from the bills of mortality. A few of them designating accidents and affections of a vague character are omitted, as tending rather to perplex than to elucidate the subject. The alphabetical arrangement has been adopted as the most convenient.

Abscess, is the first affection which presents itself, but the particular kinds are left undesignated. The deaths were common to all ages, and it may be surmised, that most of those set down under the twentieth year were of a scrofulous character.

In the number of deaths reported as by *Angina Pectoris*, we are inclined to attribute those included under the first year to that kind of syncope or asphyxia sometimes affecting infants at birth, and a few days afterwards, the pathology of which differs essentially from that of angina pectoris common to more advanced life.

The deaths from *Asthma*, were most numerous after the age of puberty, and especially so between the 60th and 80th years.

The greatest number of deaths by *Cancer* and *Scirrhus* occurred between the ages of 40 and 50.

Of *Consumption*, the greatest mortality appears between the 30th and 40th years.

Dropsy of the Brain, exhibits the highest amount of deaths under the first year. Dropsy of the *Chest*, between the 40th and 50th years, and Dropsies of kinds not designated, (chiefly *Anasarca* and *Ascites*,) between the 30th and 50th years.

Of *Epilepsy*, most of the deaths reported, are included between the period of puberty and the 60th year.

Scarlet Fever, appears to have been chiefly fatal between the 2d and 20th years. *Fevers*, of other descriptions, exhibit the greatest mortality between the ages of 20 and 50.

Of *Gravel and Stone*, most of the deaths are included between the 40th and 90th years.

Of *Hæmorrhages*, the mortality is much the greatest between the 20th and 50th years.

Of *Insanity*, most of the deaths occurred between 30 and 40.

Of *Inflammation of the Brain*, the deaths were most numerous from early infancy to the age of 40. Of Inflammation of the *Lungs and Chest*, the highest number appears under the first year, but of the deaths which occurred from this form of inflammation in the latter stages of life, the greatest amount is between 30 and 40. From puberty however, to the most advanced age, the mortality appears to have maintained a regular ratio to the population. Of inflammation of the *Stomach and Bowels*, the deaths appear to have been much more common to the early stages of life, the highest number being under one year, and next greatest between the 20th and 30th years. Of inflammation of the *Liver*, most deaths are recorded between the 20th and 60th years. Of inflammation of the *Bladder*, between the 50th and 60th years. Of *Erysipelatous Inflammation*, much the greatest number of deaths are reported under the first year, and of those which occurred after the age of puberty, the most were between the 30th and 50th years.

The highest number of deaths by *Palsy*, appears between the 60th and 70th years, and nearly four-fifths of the whole amount reported, are in the period between the 40th and 90th years.

Most of the deaths from *Rheumatism*, occurred between the ages of 30 and 50.

The number of deaths from *Scrofula*, is nearly the same at every

period under the 30th year, but after this age the proportion is quite small.

The deaths from *Small-pox*, were most numerous between the ages of 20 and 30, and nearly equally so under the first year. Some occurred even so late as the 70th and 80th years.

Under the head *Sudden*, most of the deaths, especially among infants, were probably occasioned by affections of obscure pathology. In very many instances, apoplexy has doubtless been reported under this title, more particularly when it has happened that the subject was not seen by a physician previous to death.

Table VI.

The whole number of deaths reported in the Philadelphia bills of mortality from Jan. 1st, 1807, to Jan. 1st, 1827, still-born excluded, is fifty-three thousand and four.

This table exhibits the proportion of deaths by each of the most frequent diseases to the whole number of deaths. Its objects are so very perspicuous as to require neither explanation nor comment to make it understood.

Table VII.

This table shows the annual number of deaths of children, reckoning as such all under the twentieth year, according to the usage of the Board of Health.

Except a few remarks relative to *bowel complaints*, we shall leave comments upon this interesting table to others.

The number of deaths reported from *cholera*, the most fatal in the list, will be found varying considerably from year to year. The highest for any one year is two hundred and fifty-three, in 1823. The whole amount for the twenty years is three thousand six hundred and thirty-nine. The influence of the epidemic agents, which, for the last seven years have been so unusually active, is very perceptible in this column.

The last observation is likewise applicable to the deaths from *diarrhœa and dysentery*, the whole number of which for the series is one thousand three hundred and seventy-three, making the total amount of deaths under puberty, from bowel complaints of all kinds, five thousand and twelve.

Table VIII.

This table shows the deaths from diseases most incident to the early stages of life, with the proportion by each particular disease, to the whole

number of deaths under the age of puberty. To render the subject more distinct the diseases are arranged according to their mortality.

Bowel complaints, as the most destructive, stand first in this order. Of these about two-thirds are under the general designation of *cholera*, nearly all of which were doubtless entitled to the specific appellation of *cholera infantum*, a disease almost peculiar to the United States, in many parts of which it exists endemically under the common name of *summer complaint*. Of three thousand eight hundred and twelve, the whole amount of deaths reported from cholera, adults and children inclusive, three thousand six hundred and thirty-nine were under the age of puberty, and three thousand five hundred and seventy-six under the fifth year, viz. two thousand one hundred and twenty-two under the first year, one thousand one hundred and eighty-six between the first and second years, and only two hundred and sixty-eight over the second year. As this affection seldom attacks those beyond the fifth year, the balance of two hundred and thirty-six between the amount at that period and the total at all ages may be considered as *cholera morbus*.

The proportion of deaths by cholera, to the whole number under the twentieth year, is 1 in 6.3; of diarrhœa and dysentery, 1 in 16.8; and of all kinds of bowel complaints as 1 in 4.6.*

The mortality of infants from *Convulsions* is truly appalling, and for the whole twenty years amounts to three thousand three hundred and fifty-three, nearly a seventh part of the whole number of deaths under puberty. Of this sum, two thousand five hundred and fifty-six were under the first year, leaving a balance of only seven hundred and ninety-seven for the remaining nineteen years.†

* There are many reasons for believing that *cholera infantum* originates from a species of malaria similar to that giving rise to intermittent and remittent fevers and dysentery, in subjects of more advanced life, but modified by the age and peculiar circumstances, incident to the city, a removal from which to the country generally acts like a specific in curing this affection. It may be further observed with regard to the numerous deaths among infants by this and other bowel complaints, that they are generally confined to the offspring of the poor, and especially prevail among the blacks. Indeed, deaths by cholera infantum rarely happen in houses with large and well aired apartments.

† The justly celebrated Tissot, in his *Avis au Peuple*, published at Paris towards the close of the eighteenth century, introduces some very excellent remarks relative to the convulsions of infants, which he regards as almost always induced by some other ailment or disease, especially from the retention of the meconium, the presence of acidities, or crude and indigestible substances in the bowels, teething and worms. The great prevalence of these affections in his time, with the obscurity which enveloped them is well ex-

The class of *Phlegmasiæ*, according to our arrangement, stands third in the scale of infantile mortality. The whole amount of deaths from inflammations of all kinds, in the twenty years, is two thousand and eighteen, the proportion of which to the deaths from all other diseases under puberty, is as one to eleven. The largest amount of any one affection is eight hundred and sixty-seven, from inflammation of the *lungs and chest*, being in the proportion of one in twenty-six of the whole amount of deaths under puberty from the phlegmasiæ. Of this amount it will be observed that much the highest number of deaths occurred under the first year. A diminution is apparent between this age and the tenth year, after which it rises again, and continues increasing for some years, as may be seen by reference to Table V.

The next highest number of deaths under this head, is six hundred and twenty, from inflammation of the *stomach and bowels*, the ratio of which to the whole amount of deaths from all infantile diseases, is as one in thirty-seven. Of these, the largest portion happened under the first year.

Inflammation of the *brain* does not appear to have been fatal to those under the first year in the same proportion as the former affections, the sums of the four periods varying but little from each other. The lowest number is between the first and second years. The whole amount for twenty years is three hundred and nineteen, which is more than one-half of all the deaths in twenty years by the same affection, reckoning those of all ages.

With regard to the deaths from *Measles*, which disease occupies the tenth place in our arrangement, much the greatest mortality appears between the first and fifth years, after which indeed but eighty-one deaths out of the whole amount of six hundred and fifty-four occurred.

Of *Small-pox*, the highest number of deaths recorded, is in the period between the second and fifth years. The whole number for the twenty years is six hundred and forty, which is considerably more than half the amount of deaths from this disease at all ages.

Catarrh, seems to have been extremely fatal during the first year of infancy, two hundred and sixty-one deaths having occurred in that time out of four hundred and twenty-one, the amount under puberty for the whole twenty years. This affection, it is probable, never

pressed in the following quotation from the above mentioned treatise:—Presque tous les enfans qui meurent avant l'âge d'un an, et même de deux, meurent avec des convulsions, l'on dit qu'ils sont morts de convulsions, et l'on a en partie raison. Vol. ii. Chap. xxvii. §. 378.

proves fatal, unless when it terminates in engorgement or inflammation of the mucous membrane of the lungs, or other portions of the contents of the chest.

The deaths from *atrophy, tabes, and marasmus*, have been all placed under the same head, as depending frequently upon the same causes, and often confounded together. The highest number is under the first year, namely, during the period of lactation.

Sore Throat is a title so very indefinite that we shall pass it without comment.

In regard to most of the remaining diseases, the deaths from which are reported in this table, no observations occur to us which it would not be reckoned quite superfluous to mention in this place.

The deaths in childhood from *Erysipelatous inflammation*, amount in the twenty years to ninety-two, of which number sixty-four are represented as having occurred under the first year. From this estimate we may infer that the affection is much less fatal in this city than in many parts of Europe, particularly in their various lying-in hospitals.

Computing the whole number of deaths by inflammations of all kinds, for each period specified in the table, they would stand thus: under the first year, eight hundred and seventy-one—between the first and second years, three hundred and seventy-three—between the second and fifth, two hundred and ninety-nine—between the fifth and tenth, two hundred and eleven—and between the tenth and twentieth, two hundred and sixty-four—making altogether the sum of two thousand and eighteen.

The fourth class of diseases, according to the arrangement of the table, is that of *Dropsies*, the proportion of deaths from which to those of all other diseases under puberty, is one in twelve. The whole amount of deaths from this source in the twenty years, is one thousand eight hundred and seventy-one, of which number, no less than one thousand five hundred and thirty-nine are reported as having occurred from *dropsy of the brain* alone, being one in fifteen of the deaths under puberty from all other causes. The highest number in any single period, is five hundred and thirty-one under the first year; the lowest, fifty-two, between the first and second years.

The number of deaths reported from *Debility and decay*, make this head the fifth in the scale of mortality. There is much vagueness and obscurity in this title, and there can be little doubt that it has been often resorted to when the indications of the specific disease have been slightly or but imperfectly understood. The proportion of deaths before the age of puberty reported under this head is as one to fourteen of those from all other affections.

The deaths from *Fevers* make this head the sixth in the scale, the whole amount of all kinds being one thousand four hundred and ninety-six, or one in fifteen of all other diseases under puberty.

Of *Scarlet Fever* the amount for the whole twenty years is ninety-three.

The number of deaths from fevers of all other kinds, increases as the age advances, being much the greatest under the last period.

Consumption is the seventh in the scale of mortality. As might be expected, the number of deaths increase by it, as the age advances.

Hives or Croup, occupies the eighth place. The whole amount of deaths during twenty years, from this very prevalent affection, is one thousand and thirty, being to the whole number of deaths under puberty from other diseases, as one in twenty-two. The number under the first year, is four hundred and thirty-five; between the first and second two hundred and forty-three; between the second and fifth, two hundred and seventy-four; after which, the diminution is so great, that but one is reported as having died during the whole period between the ages of ten and twenty.

The same observations are likewise applicable in a general way, to *Hooping Cough*, with regard to which no further comment seems necessary in this place.

Table IX.

In this table an estimate is given of the proportion of deaths in Philadelphia, to the population. The calculations are made to embrace the period between 1807 and 1820, as in the first of these years, the reports of deaths began, and in 1820, the last census by order of the general government was taken, there being no provision in Pennsylvania for taking a regular state census. Unwilling to rest our calculations upon conjecture, we shall estimate the population no further than the data are certain. To reckon the increase at the rate which subsisted between the years 1810 and 1820, would certainly lead to a false result, inasmuch as the intermediate period was one of almost constant commercial distress and embarrassment, directly calculated to repress the growth of population.

The estimate of inhabitants in this statement, has therefore been formed upon the official returns made to the general government, which give for those parts of the town from which returns of interments are made, in

1800 - - - - -	71,378
1810 - - - - -	98,282
1820 - - - - -	121,980

The amount for each intermediate year has been calculated upon the supposition that the increase took place in a regular ratio. The smallest number of deaths in proportion to the population was 1 out of 56.53, in the year 1815: the greatest 1 in 38.25, in 1820. The average proportion for the whole series of fourteen years, is 1 death in 47.86 inhabitants.

In this calculation no regard has been paid to the difference existing between the mortality of the whites and blacks, which it will be presently seen, is such as to lessen considerably the average proportion for the white population.

It is only from the year 1821, that we find a distinction of colour made in the bills of mortality. As therefore we have not the power of ascertaining the precise rate at which the black population has increased since that time, in order to estimate the proportion of deaths to the number of inhabitants, we are compelled to appeal to conjecture for some of the data, or to abandon altogether this most interesting subject. To take as a basis the rate at which the black population increased between 1810 and 1820, might lead to much incorrectness, since in this period, owing to the existence of extraordinary circumstances, among which we may mention the epidemic of 1818, 1819, the increase was less than in former years. This is shown by refering to the last censuses, which give the number of blacks for the city and suburbs as follows:

In 1800 - - - - - -	6,467
1810 - - - - - -	9,913
1820 - - - - - -	11,384

Thus we find the increase between 1800 and 1810, amount to 37.7 per cent. or at an average of 3.7 per cent. per annum, whilst in the ten succeeding years it is only 14.8 per cent. or 1.48 per cent. per annum. Reckoning the increase since 1820, notwithstanding the late emigration to Hayti, at the rate of two per cent. per annum, the estimate of black population and the comparative proportion of its mortality would stand as follows:

Year.	No. of Deaths per annum.	Population per annum.	Proportion of deaths to population as 1 in—
1821	686	11,611	16
1822	560	11,843	21
1823	800	12,079	15
1824	703	12,320	17
1825	495	12,566	25
1826	529	12,817	24
	3773	73,236	118

The average proportion of the deaths of blacks to their population, according to the most favourable computation, embracing a period of six years, is 5.1 per cent.

In the city and suburbs the blacks constituted, in 1820, about 9.3 per cent. of the whole population.

Of the whole amount of deaths reported in the bills of mortality during six years, about 16 per cent. were of blacks.

If, therefore, we deduct 9.3 per cent. as the proportion of blacks, from the total of the column of population, and from that containing the whole amount of deaths, about 16 per cent. as the proportion of blacks, the average mortality would be as one death in 50.8 of the white inhabitants, that of the blacks to their population being as 1 death in 19.

Table X.

This table exhibits a comparative view of the mortality of males and females, both of adults and children, from the year 1811, when a distinction of sex was first made in the annual reports, to the year 1826, inclusive: and likewise the number born in each year, both of males and females, since 1820, when the record of births first began.

It must be observed that the addition of the sums of males and females reported in this table, do not always make up those in the column of totals, as in some instances the distinction of sex has been omitted in the original certificates.

In the comparative estimate for sixteen years of the mortality of the sexes at all ages, that of females is on an average 23 per cent. less than that of males; being in the ratio of only 77 females to 100 males.

Of the deaths under the twentieth year, the excess of males is 18.5 per cent., being at the rate of about 81 females to 100 males; but of the whole mortality of adults, the excess of males amounts to 28 per cent., being in the proportion of only 72 women to 100 men.*

That part of the table appropriated to the *Births*, will serve to ex-

* Calculations in England make the proportion of deaths of women to that of men as 92 to 100. This disparity in the chances of life in the sexes, affects very greatly the estimates of pecuniary interests depending upon the duration of life, so that the prices of annuities for females to enjoy whilst living, are much higher than those demanded for men. It will be evident from the data furnished in this table, that the chances of life are still more favourable to the female sex in this part of America, than they are represented to be in England.

hibit with more accuracy the relative proportion of the sexes, than to afford correct comparative estimates of the relative proportions existing between the births, deaths, and population. Leaving, therefore, all other calculations till the data shall be less equivocal, we will only observe, that the proportion of the sexes at birth is about 91 females to 100 males.

Table XI.

This table exhibits the ages at which the deaths in Philadelphia have occurred in each one of a series of twenty years. Beginning with the deaths which took place under the first year of life, and ending with those between one hundred and ten and one hundred and twenty, the whole time is divided into fifteen periods,* the mortality at each of which in proportion to the whole amount, with ages designated,† is as follows:—

Under 1 year,		as	1 in	4.6
Between 1 and	2		1	11.
2	5		1	14.
5	10		1	25.
10	20		1	20.
20	30		1	8.4
30	40		1	7.6
40	50		1	9.6
50	60		1	13.
60	70		1	18.
70	80		1	27.
80	90		1	45.
90	100		1	156.
100	110		1	873.
110	120		1	7363.

The statement contained in this table of the periods of life, at which each of fifty-one thousand five hundred and forty-four individuals of all ages and conditions died, constitutes the best foundation we possess for an estimate of the *mean duration of human life*, in

* Another period, namely, between the tenth and twentieth years, has of late been introduced into the bills of mortality, but it is thought best to continue the table with the distinctions first established.

† Of the whole amount of deaths reported during twenty years, viz. fifty-three thousand and four, there were one thousand four hundred and sixty, whose ages were unknown, leaving the number of deaths with ages designated, fifty-one thousand five hundred and forty-four.

Philadelphia at this epoch. The sum of the ages at which the deaths occurred, divided by the number of the deceased, gives 29.35 years as the mean duration. This is the result of an average of twenty years, the mean of each of which is given in the column next to that containing the amount of deaths for each year. It is interesting to observe the variations in the successive years occasioned by the greater or less mortality of children.*

It is a rule applicable to calculations of this nature, that the multiplicity of observations destroy the operation of accidental circumstances, and establish those depending upon certain and regular causes.

It is therefore evident, that had the number of observations of the ages at which deaths occurred been greater, the mean value would have been so much the more accurate.

* The ancient Romans kept with much exactness registers or tables, showing the births, sex, periods of puberty, manhood, age at death, diseases, &c. Domitius Ulpianus, prime minister to Alexander Severus, estimated from these records the mean duration of human life in ancient Rome in his time, at thirty years.

the Spring of 1820, *inclusive.*

Spring	Mean Temperature.‡	Winter Months.	Lowest Fall.*	Highest Rise.†	Mean Temperature.‡
	70	December	18	52	36
1811	60	January (1212)	6	41	28
	45	February	14	45	30
	60	December	23	48	30
1812	54	January (1813)	12	50	30
	40	February	20	40	32
	62	December	26	44	32
1813	50	January (1814)	18	40	31
	41	February	19	49	34
	65	December	20	47	30
1814	50	January (1815)	10	46	30
	45	February	15	40	30
	60	December	16	56	32
1815	54	January (1816)	6	46	30
	42	February	8	58	32
	62	December	27	64	35
1816	54	January (1817)	19	51	30
	50	February	4	50	25
	70	December	10	54	40
1817	55	January (1818)	11	48	32
	55	February	9	54	30
	65	December	17	52	30
1818	65	January (1819)	19	51	35
	50	February	22	60	40
	70	December	21	50	40
1819	55	January (1820)	11	40	30
	48	February	14	69	35

* Ta 3 o'clock P. M.
‡ Es extremes of temperature.
N. B

Philadelphia at this epoch. The sum of the ages at which the deaths occurred, divided by the number of the deceased, gives 29.35 years as the mean duration. This is the result of an average of twenty years, the mean of each of which is given in the column next to that containing the amount of deaths for each year. It is interesting to observe the variations in the successive years occasioned by the greater or less mortality of children.*

It is a rule applicable to calculations of this nature, that the multiplicity of observations destroy the operation of accidental circumstances, and establish those depending upon certain and regular causes.

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TABLE I.

Thermometrical Observations made in Philadelphia, from the Spring of 1811, *to the Spring of* 1820, *inclusive.*

Spring Months.	Lowest Fall.*	Highest Rise.†	Mean Temperature.‡	Summer Months.	Lowest Fall.*	Highest Rise.†	Mean Temperature.‡	Autumnal Months.	Lowest Fall.*	Highest Rise.†	Mean Temperature.‡	Winter Months.	Lowest Fall.*	Highest Rise.†	Mean Temperature.‡
1811 March	28	69	40	June	62	86	70	September	59	83	70	December	18	52	36
1811 April	35	70	48	July	72	93	80	October	43	79	60	January (1212)	6	41	28
1811 May	46	76	60	August	66	86	73	November	34	56	45	February	14	45	30
1812 March	22	60	38	June	61	82	70	September	49	77	60	December	23	48	30
1812 April	32	75	45	July	60	83	72	October	40	71	54	January (1813)	12	50	30
1812 May	42	75	50	August	60	80	70	November	28	63	40	February	20	40	32
1813 March	24	54	40	June	58	86	74	September	56	85	62	December	26	44	32
1813 April	40	70	55	July	63	89	70	October	35	64	50	January (1814)	18	40	31
1813 May	48	75	58	August	64	85	72	November	30	59	41	February	19	49	34
1814 March	21	57	36	June	58	78	68	September	51	82	65	December	20	47	30
1814 April	40	66	50	July	60	85	70	October	38	77	50	January (1815)	10	46	30
1814 May	53	78	61	August	60	85	72	November	31	65	45	February	15	40	30
1815 March	29	60	40	June	62	89	70	September	50	84	60	December	16	56	32
1815 April	41	72	53	July	68	92	80	October	41	64	54	January (1816)	6	46	30
1815 May	50	78	60	August	63	90	78	November	31	65	42	February	8	58	32
1816 March	14	70	40	June	50	90	70	September	56	83	62	December	27	64	35
1816 April	33	75	45	July	66	78	70	October	52	67	54	January (1817)	19	51	30
1816 May	38	76	58	August	64	87	70	November	34	74	50	February	4	50	25
1817 March	28	60	35	June	55	85	70	September	50	84	70	December	10	54	40
1817 April	40	80	50	July	64	87	78	October	39	68	55	January (1818)	11	48	32
1817 May	50	79	60	August	59	86	75	November	31	73	55	February	9	54	30
1818 March	25	68	42	June	64	92	75	September	50	82	65	December	17	52	30
1818 April	40	64	50	July	71	97	79	October	40	73	65	January (1819)	19	51	35
1818 May	43	84	60	August	65	86	70	November	36	65	50	February	22	60	40
1819 March	21	66	47	June	56	91	75	September	54	88	70	December	21	50	40
1819 April	34	79	55	July	67	92	78	October	38	76	55	January (1820)	11	40	30
1819 May	50	82	62	August	63	94	75	November	29	67	48	February	14	69	35

* Taken at 8 o'clock A. M. in the shade and open air.

† Taken at 3 o'clock P. M.

‡ Estimated by observing the temperature at sunrise in the shade and open air, and at 3 o'clock P. M. the two extremes of temperature.

N. B. Fahrenheit's thermometer was used in making the above observations.

TABLE II.

Abstract from the Census of the City and County of Philadelphia, taken in 1820, *by order of the General Government, showing the number and description of Inhabitants in the Wards and Districts, from which returns of Interments are made.*

WARDS AND INCORPORATED DISTRICTS.	WHITE POPULATION.															COLOURED POPULATION.									Others untaxed.	Total population of the Wards and Districts.
	MALES.						FEMALES.						Foreigners not naturalized.	Number of persons engaged in Horticulture.	Number of persons engaged in Commerce.	Number of persons engaged in Manufactures.	MALES.				FEMALES.					
	Under 10 years.	Of 10 and under 16.	Between 16 and 18.	Of 16 and under 26.	Of 26 and under 45.	Of 45 and upwards.	Under 10 years.	Of 10 and under 16.	Of 16 and under 26.	Of 26 and under 45.	Of 45 and upwards.						Under 14 years.	Of 14 and under 26.	Of 26 and under 45.	Of 45 and upwards.	Under 14 years.	Of 14 and under 26.	Of 26 and under 45.	Of 45 and upwards.			
City Wards, - -	7247	3305	1562	5921	6332	2980	7155	4160	7215	7065	3637	777	156	2984	6100	1052	674	1079	351	1172	1323	1374	554	1203	63802
Passyunk Incorporation,	257	151	70	185	142	105	183	139	167	141	91	5	643		28	4	25	11	4	19	13	1			1638
Kensington Do. -	1216	467	126	532	837	401	1180	483	647	748	467	163	12	15	512	17	16	13	16	23	18	22	15		7118
Northern Liberties, Wards,	2945	1108	448	1717	2017	1026	2888	1284	2112	2299	1384	92	7	318	1866	174	66	112	76	140	119	136	75		19678
Do. Incorporation,	270	132	38	153	160	136	280	119	191	177	119	76	223	9	159	19	5	8	8	12	11	7	3		1810
Penn - - Do.	484	190	61	312	344	195	429	199	334	313	158	418	401	37	469	24	15	18	10	26	22	20	11		3105
Moyamensing - Do.	448	213	51	186	369	147	477	162	186	409	192	29	280	98	218	217	57	223	95	117	81	285	99		3963
Southwark - Do.	2307	951	317	868	1856	353	2085	997	1372	2167	725	208	34	131	898	175	56	190	12	187	134	248	30		14713
Spring Garden Do.	589	664	91	350	307	136	545	321	404	314	173	9		17	199	18	10	11	1	20	13	13	5	4	3498
Blockley - Do.	356	169	62	245	298	163	377	172	249	301	151	94	153	17	119	36	28	20	9	21	34	19	7		2655
	16119	6950	8826	10469	12662	5642	15599	8036	12877	13934	7097	1871	1909	3626	10568	1736	952	1685	582	1737	1768	2125	799	1207	121980

TABLE III.

Statement of Deaths in Philadelphia for a series of twenty years, viz: from January 1st, 1807, to January 1st, 1
number which occurred from the most prevailing Diseases

Year.	Whole number of Deaths.*	Diseases of the Lungs.			Fevers.					Inflammations.								Dropsies.				Bowel Complaints.			Convulsions.	
		Consumption.	Acute Affections.	Total.	Bilious and Remittent.	Nervous and Typhus.	Yellow and Malignant.	Type not designated.	Total.†	Brain.	Lungs and Chest.	Stomach, Bowels, and Peritoneum.	Liver.	Spleen.	Bladder and Kidneys.	Uterus.	Heart and Pericardium.	Total.	Brain or Head.	Chest.	Not designated.	Total.	Cholera.	Diarrhœa and Dysentery.	Total.		
1807	1961	306	93	399	31	44	3	53	131	12	93	29	9		2			145	48	20	54	122	189	145	334	127	
1808	2145	301	101	402	45	35		71	151	22	101	34	25					182	52	18	67	137	230	114	344	145	
1809	1884	311	65	376	52	62		24	138	11	65	50	12					138	40	41	34	115	153	57	210	170	
1810	1897	306	85	391	32	46	3	52	133	16	85	63	20		1			184	44	43	42	129	206	45	251	183	
1811	2249	369	77	446	37	54	5	45	141	14	77	45	26					162	47	35	75	157	240	83	323	162	
1812	2017	339	74	413	29	40	3	43	115	11	74	63	14					162	50	15	49	114	157	44	201	177	
1813	2223	216	61	277	30	107	6	50	193	8	61	54	18					141	38	18	42	98	178	100	278	166	
1814	2041	274	71	345	16	107	7	37	167	11	71	44	24					150	40	29	35	104	127	91	218	174	
1815	1943	347	135	482	40	92	2	44	178	21	135	50	21					227	65	19	53	137	94	77	171	180	
1816	2225	434	149	583	39	84	2	68	193	23	149	35	18		4			229	83	21	52	156	90	63	153	167	
1817	2107	349	96	445	37	101	4	69	211	21	96	60	26		2			205	65	20	64	149	137	92	229	167	
1818	2609	396	74	470	89	322		81	492	22	74	76	21		2			195	67	5	99	171	203	80	283	141	
1819	2979	459	131	690	92	133	13	39	277	33	131	78	20		3			265	92	8	131	231	260	103	363	201	
1820	3189	446	141	586	231	123	73	99	526	41	141	57	27	1	6	3		275	115	17	77	209	263	191	454	162	
1821	2161	438	121	559	211	117		74	402	29	134	69	46		6	2	3	289	99	22	73	194	191	189	380	153	
1822	3334	488	124	612	223	149		126	498	47	124	76	29	2	5	1	1	284	120	36	87	243	212	249	461	179	
1823	4372	536	141	677	253	243		248	744	46	141	106	37	2	5	1	1	339	147	47	81	241	265	297	562	214	
1824	4284	576	178	760	169	317		161	647	66	178	119	35		2	2		402	124	29	68	221	164	133	297	368	
1825	3539	519	145	664	147	91	1	123	362	64	145	81	36	2	8	2		338	140	40	90	270	209	153	362	237	
1826	3845	587	222	809	194	104		123	421	60	222	102	54	2	3	2	2	447	126	38	78	242	244	171	415	258	
Totals.	53004	7977	2284	10281	1998	2371	122	1629	6120	583	2284	1291	518	9	49	13	7	4758	1602	521	1351	3474	3812	2477	6289	3731	10

* The sums in this column include all the deaths per annum, except such as were reported under the head of *Still-born*, which are given in a

† Scarlet, puerperal, and some other fevers under different designations, are not embraced in this total, which is meant to include those only

[a] Including 41 returned mania a potu.—[b] 31 do.—[c] 53 do.—[d] 64 do.—[e] 55 do.

1827, *inclusive: containing the amount for each year, and*

Croup.	Hooping Cough.	Measles.	Small Pox.	Asthma.	Apoplexy.	Palsy.	Insanity.	Drunkenness.	Suicide.	Cancer.	Gravel and Stone.	Parturition and Child-bed.	Epilepsy.	Still-born.
55	17		32	16	30	18	31	14	9	9	4	12	5	84
53	11	73	145	4	34	17	25	5	4	9	1	4	12	126
33	96		101	12	31	25	13	8	5	9	1	1	8	120
49	32	1	33	11	31	10	29	12	6	7	3	1	5	139
40	54	2	117	8	46	28	32	8	2	12	2	5	4	137
20	24	20		7	17	23	30	4	3	4	1	3	4	142
34	29	1		13	29	14	25	3	1	7	5	4	3	66
22	23	9		5	25	18	22	5	5	19	2	6	7	96
20	6	7		7	50	21	36	7	6	9	3	7	5	97
30	46	2	97	16	36	22	27	8	8	14	4	9	5	94
22	21		52	8	25	32	24	17	2	17	2	5	3	110
48	6		8	8	40	37	41	10	1	7	2		9	156
80	151	108	1	15	57	20	28	24	3	17	3		13	145
89	11	47		11	44	36	20	31	4	23		1	18	185
63	36			6	49	40	28	22	7	14	4	6	14	211
73	38			15	41	28	24	[a]66	6	18		4	3	257
67	79	156	160	7	54	39	17	[b]65	6	19	1		14	228
84	42	102	325	7	50	47	23	[c]75	2	17	3	8	7	115
75	40	38	6	21	61	42	24	[d]95	9	19	3	10	13	273
84	43	101	3	8	50	31	16	[e]83	13	19	2	4	16	306
41	805	667	1080	205	800	548	515	558	102	272	46	90	175	3087

separate column.
of most frequent prevalence.

Summa

	Adults
1807	
1808	
1809	
1810	
1811	
1812	1
1813	
1814	
1815	
1816	
1817	
1818	1
1819	1
1820	
1821	1
1822	1
1823	1
1824	2
1825	1
1826	1
Totals.	23

TABLE IV.

Summary of the Deaths in Philadelphia for each month in a series of twenty years, with the number of Adults and Children, including St
according to the annual reports of the Board of Health.

	January.			February.			March.			April.			May.			June.			July.			August.			September.			October.			November.			Dec
	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.	Children.	Total.	Adults.
1807	92	58	150	73	45	118	109	45	154	111	46	157	90	43	133	91	68	159	101	136	237	117	151	268	140	97	237	108	54	162	101	54	155	71
1808	91	45	136	73	50	123	91	63	154	96	73	169	81	98	179	95	132	227	111	263	374	109	188	297	88	97	185	71	83	154	81	71	152	59
1809	73	57	130	67	51	118	95	46	141	80	56	136	66	84	150	82	102	184	53	131	184	183	107	290	87	80	167	91	85	176	83	106	189	63
1810	82	67	149	82	70	152	87	40	127	96	56	152	99	65	164	68	79	147	63	129	192	91	178	269	91	82	173	104	89	193	86	66	152	87
1811	79	69	148	79	78	157	102	87	189	95	60	155	105	74	179	97	80	177	125	126	251	124	203	327	104	92	196	131	107	238	100	95	195	100
1812	114	89	203	98	59	157	87	63	150	128	77	205	85	59	144	76	69	145	68	92	160	60	155	215	59	108	167	51	42	93	51	44	95	36
1813	77	52	129	54	28	82	70	59	129	93	59	152	82	38	120	60	58	118	54	114	168	85	148	233	85	94	179	66	45	111	57	39	96	61
1814	49	49	98	61	41	102	79	48	127	101	80	181	57	69	126	71	65	136	67	104	171	122	160	282	73	62	135	85	47	132	87	70	157	86
1815	88	43	131	70	52	122	116	66	182	113	49	162	99	58	157	126	71	197	78	75	153	124	102	226	90	85	175	105	64	169	119	58	177	122
1816	99	82	181	118	83	201	105	88	193	109	69	178	108	75	183	135	91	226	131	97	228	113	123	236	100	106	206	97	95	192	82	60	142	98
1817	98	59	157	89	81	170	106	79	185	131	76	207	140	73	213	119	76	195	86	113	199	107	123	230	125	108	233	86	60	146	94	48	142	112
1818	163	72	235	150	61	211	151	89	240	161	75	236	138	66	204	149	71	220	143	178	321	137	175	312	105	118	223	95	74	169	139	59	198	120
1819	120	72	192	106	89	195	141	118	259	117	97	214	120	84	204	121	138	259	122	216	338	136	296	432	127	161	288	103	139	242	102	152	254	96
1820	96	135	231	99	97	196	127	136	263	138	101	239	113	83	196	126	112	238	124	217	341	262	321	583	171	144	315	178	133	311	136	92	228	131
1821	114	87	201	114	101	215	134	105	239	126	98	224	143	102	245	151	106	257	169	95	264	200	252	452	146	121	267	175	121	296	164	126	290	129
1822	158	114	272	120	94	214	143	92	235	124	86	210	142	122	264	139	119	258	173	268	441	175	195	370	204	174	378	231	122	353	163	127	290	173
1823	186	128	314	158	96	254	122	85	207	177	113	290	116	94	210	160	210	370	183	303	486	205	290	495	279	272	551	235	222	457	240	205	445	305
1824	272	166	438	318	201	519	250	230	480	199	143	342	163	126	289	171	181	352	141	173	314	160	228	388	210	181	391	192	122	314	165	126	291	125
1825	145	144	289	147	86	233	216	147	363	140	91	231	139	128	267	156	203	359	254	296	550	182	192	374	163	152	315	126	123	249	160	124	284	156
1826	194	134	328	191	148	339	149	205	354	190	200	390	138	127	265	139	186	325	183	332	515	153	200	353	184	174	358	230	167	397	144	145	289	122
Totals.	2390	1722	4112	2267	1611	3878	2480	1891	4371	2525	1705	4230	2224	1668	3892	2332	2217	4549	2429	3458	5887	2845	3787	6632	2631	2508	5139	2560	1994	4554	2354	1867	4221	2252

| | | |

January 1st, 1821, together with the ages at which they took place.

NAMES OF DISEASES.	Under 1 year.	Between 1 and 2.	Between 2 and 5.	Between 5 and 10.	Between 10 and 20.	Between 20 and 30	Between 30 and 40.	Between 40 and 50.	Between 50 and 60.	Between 60 and 70.	Between 70 and 80.	Between 80 and 90.	Between 90 & 100.	Between 100 & 110.	Between 110 & 120.	Unknown.	Totals.
Abscess	13	7	10	15	11	46	54	31	23	14	5					4	233
Aneurism	1		1		6	6	11	10	8	3	1						47
Angina Pectoris	8		5	8	9	11	15	11	8	2							77
Anthrax									1	2	1						4
Apoplexy	12	8	10	5	14	68	122	154	154	131	80	30	4	1		7	800
Apthæ or Thrush	41	8	1	2				3		1							56
Asthma	13	4	9	4	8	10	29	25	20	34	33	12	4				205
Atrophy, Tabes and Marasmus,	186	61	47	14	19	18	36	33	40	42	32	11	3				542
Bowel Complaints, viz: Cholera,	2122	1186	268	52	11	25	35	31	25	21	11	4				21	3812
Diarrhœa and Dysentery	513	382	254	125	99	176	215	186	193	155	107	43					2477
Burns and Scalds	29	37	78	39	14	21	18	11	7	11	4	1	1	1		3	275
Cancer and Scirrhus			4	1	3	17	41	69	54	37	26	15			1	1	272
Catarrh	261	78	63	12	7	20	36	13	16	17	14	5	2			2	546
Colic	26	10	3	2	9	21	36	30	29	11	18	3		1		3	202
Consumption	185	143	167	140	510	1842	1986	1401	774	431	211	64	4			119	7977
Convulsions	2556	387	249	105	56	101	100	62	40	18	10	6		1		42	3731
Childbed and Parturition					5	39	35	8								3	90
Debility and Decay	1072	243	167	87	70	141	240	247	256	282	247	129	18	2		72	3273
Diabetes			1		1	3		2	3	1	1						12
Disease of the Hip Joint	1	1		7	9	4	2	1				2					27
Dropsy (kind not designated)	39	27	59	30	70	141	235	241	190	169	94	43	4			8	1351
of the Brain	531	399	366	191	52	26	14	7	4	1						10	1602
of the Chest	18	19	20	21	29	63	81	84	74	51	37	10	2			13	521
Drowned	7	1	6	86	94	126	148	90	37	13	3	1				26	642
Drunkenness and Mania a potu					4	98	176	157	78	33	7	1				8	558
Epilepsy	16	4	14	6	24	19	33	31	20	3	1	2				2	175
Fever, Puerperal					10	107	59	12								2	190
Scarlet	8	11	37	17	20	5	2	2									102
Other kinds	209	154	293	262	578	1348	1286	1038	693	373	214	64	14	3	1	33	6564
Fungus Hæmatodes						1				1	1	1					4
Gangrene and Mortification	60	24	55	25	19	33	40	41	29	33	28	18	3	1		4	413
Gout						3	7	9	21	18	11	4				1	74
Gravel and Stone	2	1	2	3	2	1	3	6	9	7	6	3	1				46
Hernia	2		1			6	4	7	11	12	6	3				1	53
Hives or Croup	435	243	274	77	1	3		3		1	1	1				2	1041
Hooping Cough	325	241	191	42	4	1											804
Hæmorrhage (of all kinds)	19	2	7	9	28	45	55	43	29	18	6	7	3	1		2	274
Hydrophobia				2	3	2		1	2								10
Icterus or Jaundice	31	1	1	4		11	12	12	11	5	3					1	92
Insanity					3	101	184	111	64	29	14	2				7	515
Influenza	8	3	1	1	2	2	6	5	6	6	7	3		1		2	53
Inflammation of the Brain	72	43	65	64	75	79	84	45	23	23	4	2				4	583
Lungs and Chest	392	183	142	60	90	230	312	311	213	180	110	36	5	1		20	2284
Stomach and Bowels	297	116	72	63	72	155	144	109	76	58	38	9	2			3	1214
Liver	37	21	10	17	9	80	109	92	80	37	19	5				2	518
Bladder	5		1		3	6	5	6	13	2	7	1					49
Heart and Pericardium			1			2	1	1		1	1						7
Spleen	1				1	3		2	1	1							9
Uterus and Peritoneum	3		1	3	6	28	21	7	3	4							76
Erysipelatous	64	10	7	3	8	8	19	21	10	7	2	3					162
Measles	121	237	215	71	10	6	3	2								2	667
Old Age										28	260	515	240	42	4		1089
Palsy	4	5	2	3	14	26	45	76	106	113	106	42	2			4	548
Rickets and Curved Spine	1	5	3	1			3	1								1	15
Rheumatism	1	1	3	1	16	15	21	25	15	22	12	5				2	139
Scrofula	35	36	41	31	34	26	35	10	10	10	2					1	269
Small Pox	150	123	175	121	71	168	134	71	22	5	4					36	1080
Sore Throat	98	49	76	43	16	16	15	15	11	8	4	2				2	355
Sudden	74	11	10	24	8	95	209	137	122	63	19	6	3			17	798
Suicide					5	24	30	21	13	4	1	1				3	102
Syphilis	18	5	3	2	4	48	33	16	4	2						1	136
Spina Bifida	12		5	4	6		2	1									30
Tumours	1		2		5	5	2	4	2	5							26
Teething	108	103	41	3													255
Tetanus	13	1	6	13	22	24	28	12	2	2						2	125
Ulcers	10	1	7	4	6	10	12	9	11	9	2	2	3			3	89
Worms	25	54	102	54	8			1			1					2	247

TABLE VI.

Showing the proportion of Deaths in Philadelphia by each of the most frequent Diseases, to the whole number of Deaths; estimated from a series of twenty years, and arranged so as to form a scale of mortality.

Order of Mortality.	DISEASES.	Whole Number of Deaths.	Being to the whole amount of Deaths as 1 in—	Whole number of Deaths from Diseases of a similar class.	Proportion of Deaths from Diseases of a similar class to the whole number of Deaths, as 1 in—
1	Consumption	7977	6.6		
2	Bowel Complaints; viz. Cholera	3812	13.9	6289	8.4
	—— Dysentery and Diarrhœa	2477	21.4		
3	Fevers; viz. Puerperal	190	278.		
	—— Scarlet	102	519.5		
	—— Typhus, Remittent, and other kinds	6564	8.		
4	Inflammations; viz. of the Lungs and Chest	2284	23.2	4758	11.1
	—— Stomach and Bowels	1214	43.6		
	—— Brain	583	90.1		
	—— Liver	518	102.3		
	—— Uterus and Peritoneum	76	695.5		
	—— Kidneys and Bladder	49	1081.7		
	—— Heart, Pericardium and Spleen	18	2944.6		
	—— Erysipelatous	162	327.1		
5	Convulsions	3731	14.2		
6	Dropsy (kind not designated)	1351	39.2	3474	15.2
	—— of the Brain	1602	33.		
	—— of the Chest	521	101.7		
7	Debility and Decay	3273	16.2		
8	Old Age	1089	48.6		
9	Small Pox	1080	49.		
10	Hives or Croup	1041	50.9		
11	Hooping Cough	804	63.1		
12	Apoplexy	800	66.2		
13	Sudden	798	66.4		
14	Measles	667	79.5		
15	Catarrh	546	97.		
16	Atrophy, Tabes and Marasmus	542	97.8		
17	Gangrene and Mortification	413	130.7		
18	Sore Throat	355	149.3		
19	Burns and Scalds	275	192.7		
20	Hæmorrhage of all kinds	274	193.4		
21	Cancer and Scirrhus	272	198.8		
22	Asthma	205	258.5		
23	Cholic	202	262.4		
24	Epilepsy	175	302.8		
25	Rheumatism	139	381.3		
26	Syphilis	136	389.7		
27	Tetanus or Locked Jaw	125	424.		
28	Suicide	102	519.6		
29	Parturition and Childbed	90	588.9		

TABLE VII.

Statement of the Mortality in Philadelphia, from those Diseases which occur most commonly under the age of puberty with the number of Deaths which took place in each year of a series of twenty years.

Years.	Bowel Compl.			Convulsions.	Dropsies.			Inflammations.						Debility and Decay.	Fevers.		Consumption.	Hives or Croup.	Hooping Cough.	Measles.	Catarrh.	Atrophy, Tabes, and Marasmus.	Sore Throat.	Teething.	Worms.	Gangrene and Mortification.	Epilepsy.	Tetanus.
	Cholera.	Diarrhœa and Dysentery.	Whole number of Bowel Complaints.		Of the Brain.	Of the Chest.	Of all kinds.	Of the Lungs.	Stomach & Bowels.	Brain.	Liver.	Erysipelas.	Of every kind.		Scarlet.	All others.												
1807	183	72	255	127	44	4	54	24	20	4	1	2	51	28	1	39	36	54	17		1	19	5	10	37	7	2	6
1808	217	68	285	118	44		51	37	16	9	7	3	72	41	2	38	53	51	11	71	19	22	6	10	18	9	4	5
1809	147	51	198	146	36	6	45	17	25	6	1	2	51	24	3	36	45	31	95		8	7	5	15	13	4	2	3
1810	201	29	230	167	41	14	60	25	21	7	5		58	42	2	39	33	46	32	1	3	7	12	7	15	5	1	1
1811	224	24	248	134	35	9	57	30	22	4	4	3	63	40	2	59	47	40	52	2	6	7	20	20	10	11	4	3
1812	154	27	181	163	48	4	56	21	49	11	3	4	88	30	1	33	50	20	24	20	16	10	14	11	8	10		
1813	173	59	232	157	37	6	49	18	33	4	8	2	65	28		59	17	34	29		2	8	12	9	8	3	2	2
1814	125	43	168	162	39	1	45	25	28	4	7	4	68	33		45	51	21	21	8	11	15	10	10	4	7	3	1
1815	92	43	135	168	60	9	78	25	19	19	7	1	71	44		44	107	19	6	7	11	10	11	8	9	4	3	2
1816	87	26	113	147	80	2	89	50	18	9	4	8	89	51		34	58	38	45	2	40	15	10	23	12	9	1	
1817	130	60	190	157	61	8	77	29	29	10	2	4	74	35		38	64	21	21		20	14	9	26	14	6		2
1818	196	36	232	123	67		82	33	43	14	3	4	97	62	1	50	42	48	6		10	34	16	17	7	6	1	
1819	246	55	301	184	89	2	125	66	32	22	3	4	127	100	2	70	66	80	150	106	24	33	24	13	11	12	5	2
1820	249	117	366	152	114	6	134	79	25	27	3	7	141	115	30	146	75	87	11	47	24	15	16	4	9	11	6	2
1821	177	111	288	136	98	8	118	60	32	19	6	7	124	111	13	77	57	63	36		20	21	21	14	10	7	7	6
1822	200	108	308	166	117	5	130	40	41	24	6	2	123	139	8	108	64	73	38		26	17	14	11	13	9		1
1823	253	172	425	192	144	8	172	62	38	25	3	13	148	194	8	199	77	67	79	155	21	23	28	10	14	26	5	10
1824	155	76	231	336	124	9	142	93	55	35	4	9	196	163	8	134	77	84	42	99	45	10	30	11	10	14	6	4
1825	197	96	293	205	138	2	163	52	28	33	3	7	133	169	8	113	60	75	46	38	60	18	14	15	9	15	3	4
1826	233	100	333	232	123	4	143	82	46	32	14	5	179	188	4	138	56	79	42	98	54	20	5	12	6	8	9	4
Totals.	3639	1373	5012	3353	1539	107	1870	867	620	319	94	92	2018	1639	93	1496	1145	1030	803	654	421	327	282	256	243	183	64	55

TABLE VIII.

Statement of the Mortality in Philadelphia, from Diseases most incident to the early periods of Life, for a series of twenty years, viz: from January 1, 1807, to January 1, 1827; showing the proportion of Deaths from each particular disease to the whole number of Deaths under twenty years of age. The names of diseases arranged in the order of their mortality.

	NAMES OF DISEASES.	Under 1 year.	Between 1 and 2.	Between 2 and 5.	Between 5 and 10.	Between 10 and 20.	Totals.	Proportion of Deaths by individual diseases to the whole number as 1 in—
1	Cholera	2122	1186	268	52	11	3639	6.3
	Diarrhœa and Dysentery	513	382	254	125	99	1373	16.8
	Whole number of Bowel Complaints	2635	1568	522	177	110	5012	4.6
2	Convulsions	2556	387	249	105	56	3353	6.9
3	Inflammation of the Lungs	392	183	142	60	90	867	26.
	—— Stomach and Bowels	297	116	72	63	72	620	37.
	—— Brain	72	43	65	64	75	319	73.
	—— Liver	37	21	10	17	9	94	246.
	—— Erysipelatous	64	10	7	3	8	92	251.
	—— Other kinds	9		3	4	10	26	890.
	Whole number from inflammations	871	373	299	211	264	2018	11.
4	Dropsy of the Brain	531	399	366	191	52	1539	15.
	—— of the Chest	18	19	20	21	29	107	216.
	—— kinds not designated	39	27	59	30	70	225	102.
	Whole number of dropsical affections	588	445	445	242	151	1871	12.
5	Debility and Decay	1072	243	167	87	70	1639	14.
6	Fever, Scarlet	8	11	37	17	20	93	249.
	—— Other kinds	209	154	293	262	578	1496	15.
7	Consumption	185	143	167	140	510	1145	20.
8	Hives or Croup	435	243	274	77	1	1030	22.
9	Hooping Cough	325	241	191	42	4	803	28.
10	Measles	121	237	215	71	10	654	35.
11	Small Pox	150	123	175	121	71	640	36.
12	Catarrh	261	78	63	12	7	421	55.
13	Atrophy, Tabes and Marasmus	186	61	47	14	19	327	70.
14	Sore Throat	98	49	76	43	16	282	82.
15	Teething	108	103	41	3		255	90.
16	Worms	25	54	102	54	8	243	95.
17	Burns and Scalds	29	37	78	39	14	197	117.
18	Gangrene and Mortification	60	24	55	25	19	183	126.
19	Scrofula	35	36	41	31	34	177	130.
20	Sudden	74	11	10	24	8	127	181.
21	Epilepsy	16	4	14	6	24	64	361.
22	Abscess	13	7	10	15	11	56	413.
23	Tetanus or Locked Jaw	13	1	6	13	22	55	421.
24	Aphthæ or Thrush	41	8	1	2		52	443.
25	Icterus or Jaundice	31	1	1	4		37	625.
26	Syphilis	18	5	3	2	4	32	723.
27	Spina Bifida	12		5	4	6	27	857.
28	Disease of the Hip Joint	1	1		7	9	18	1286.
29	Gravel and Stone	2	1	2	3	2	10	2316.
30	Hernia	2		1			3	7720.

* This column gives the whole amount of deaths, including those where the age of the deceased was not reported.

TABLE IX.

An Estimate of the Proportion of Deaths in the City and Suburbs of Philadelphia, to the population, for each year of a series of fourteen years; together with the average number for the whole period.

Year.	Whole No. of Deaths.	Population.	Proportion of Deaths to population as 1 in
1807	1961	89,270	45.52
1808	2145	92,190	42.97
1809	1884	95,180	50.52
1810	1897	98,282	51.80
1811	2249	100,428	44.65
1812	2017	102,619	50.87
1813	2223	104,900	47.18
1814	2041	107,149	52.49
1815	1943	109,500	56.53
1816	2225	111,900	50.29
1817	2107	114,300	54.24
1818	2609	116,800	44.74
1819	2979	119,400	40.08
1820	3189	121,980	38.25
			14) 670.13

Average proportion of Deaths to population as 1 in 47.86

TABLE X.

Statement of the Deaths of Adults and Children, Males and Females, for each of the following years; together with the Births for a part of the time.

Years.	DEATHS.						Number of Deaths per annum.	BIRTHS.		
	Male Adults.	Male Children.	Whole number of Males.	Female Adults.	Female Children.	Whole number of Females.		Males.	Females.	Whole number of Births per annum.
1811	719	562	1281	525	433	958	2239			
1812	505	419	924	417	381	798	1722			
1813	521	308	829	322	388	710	1539			
1814	540	373	913	425	289	714	1627			
1815	763	371	1134	490	284	774	1908			
1816	703	450	1153	585	399	984	1537			
1817	748	438	1186	545	379	924	2110			
1818	925	512	1437	754	441	1195	2632			
1819	795	824	1619	616	659	1275	2894			
1820	955	780	1735	740	693	1433	3168	1709	1501	3210*
1821	937	721	1658	636	588	1224	2882	2630	2417	5047
1822	1171	815	1986	763	651	1414	3400	3021	2701	5722
1823	1329	1110	2439	1031	1032	2063	4502	2977	2836	5813
1824	1017	1303	2320	1076	919	1995	4315	3062	2771	5833
1825	1119	932	2051	855	830	1685	3736	3444	3182	6626
1826	1055	1142	2197	985	962	1947	4144	3526	3219	6745

* This amount is only for the last nine months of the year, as the registry commenced on the 1st of April, 1820.

TABLE XI.

The Ages or Periods of Life at which the Deaths in Philadelphia have occurred in each year of a series of twenty years, viz: from January 1, 1807, to January 1, 1827. The Still-born are excluded.

Years.	Under 1 year.	Between 1 and 2.	Between 2 and 5.	Between 5 and 10.	Between 10 and 20.	Between 20 and 30.	Between 30 and 40.	Between 40 and 50.	Between 50 and 60.	Between 60 and 70.	Between 70 and 80.	Between 80 and 90.	Between 90 and 100.	Between 100 and 110.	Between 110 and 120.	Whole No. of Deaths per annum.*	Average mean Duration of life for each year.
1807	295	235	121	65	79	144	236	172	139	88	79	60	11	4		1961	28.41
1808	457	284	167	98	95	212	219	186	128	98	61	30	7	2		2145	25.53
1809	466	172	92	52	74	203	226	159	95	77	67	44	14	1	1	1884	27.76
1810	452	169	115	59	73	240	264	163	142	96	68	45	9	2		1897	29.61
1811	451	188	164	77	101	281	290	208	158	95	79	27	11	4		2249	28.25
1812	395	165	92	53	70	159	245	167	114	82	72	34	10			2017	29.21
1813	365	144	130	64	62	107	186	158	120	102	68	51	7	1	1	2223	30.03
1814	390	122	104	53	72	154	239	175	132	106	78	42	18	2		2041	31.67
1815	358	116	97	89	147	254	249	238	155	103	73	48	15	1		1943	32.25
1816	338	168	171	133	81	272	366	265	154	126	68	63	15	5		2225	30.44
1817	438	138	134	73	96	256	325	222	162	106	84	61	11	1		2107	31.50
1818	472	214	118	68	94	370	446	316	187	138	90	67	24	5		2609	32.90
1819	706	334	269	121	130	345	364	262	171	113	96	41	20	6	1	2979	25.80
1820	650	307	241	130	175	443	396	313	202	152	96	61	18	3	2	3189	28.36
1821	633	215	193	102	138	405	396	324	221	154	97	61	21	1		2161	30.22
1822	696	243	193	121	168	424	441	348	264	217	130	67	18	4		3334	31.24
1823	854	401	299	184	232	537	336	462	312	214	137	76	24	3	1	4372	26.67
1824	936	384	364	221	255	409	486	435	309	218	177	67	20	3		4284	28.15
1825	836	250	232	128	140	432	479	373	263	171	122	85	24	4		3539	29.76
1826	844	380	285	134	188	429	452	380	271	209	135	98	32	7	1	3845	29.30
Totals.	11032	4629	3581	2025	2470	6076	6641	5326	3699	2665	1877	1128	329	59	7	53004	29.35

* This column gives the whole amount of deaths, including those where the age of the deceased was not reported.

ART. IX. *Successful Ligature of the Common Iliac Artery.* By VALENTINE MOTT, M. D. Professor of Surgery in Rutgers Medical College, New York.

A DETAILED account of the first operation ever performed upon the *arteria iliaca communis*, for the cure of *aneurism*, and especially of the first attempt to apply the ligature to so great a vessel, without dividing the peritoneum, may prove interesting to the profession generally, and must be immediately serviceable to practitioners of surgery. It is therefore as an act of duty, rather than of choice, that the following statement has been prepared, during such few and brief intervals of leisure, as could be obtained amid the daily engagements and solicitudes of business.

On the 15th of March, 1827, I was requested to visit a patient with Dr. OSBORN, (of Westfield, New Jersey, about twenty-five miles distant from New York,) whom we found labouring under a large aneurism of the right external iliac artery.

Israel Crane, aged thirty-three years, by occupation a farmer, of temperate and regular habits, having generally enjoyed excellent health, says about the middle of January he felt some pain about the lower part of the belly, which he attributed to a fall received during the winter. He is in the habit of using great efforts in lifting heavy logs of wood, as his employment at this season consists in carrying wood to market. It, however, was not until a fortnight since, that he perceived any tumour about the lower part of the abdomen. Upon examination, the abdomen on the right side was considerably enlarged from about the crural arch, as high as the umbilicus. When the hand was applied to the parietes of the abdomen, a pulsation was felt and rendered visible to some distance. To the touch the tumour beat violently, and appeared to contain only fluid blood. It commenced a little above Poupart's ligament, and reached, judging by the touch, from without, near the navel—inwards, almost to the linea alba—outwards and backwards filling up all the concavity of the ilium, and reaching beyond the posterior spinous process of that bone.

The rapid increase of this aneurismal tumour occasioned, as the countenance of our patient indicated, the most extreme agony. His sufferings at times were so great that his screams could be heard at a distance from the house. He had been bled several times, taken light food, and was kept constantly under the effect of opium. He was now informed of the serious nature of his case, and that without an operation very little chance of his life remained; with great com-

posure he immediately consented to whatever would give him the best prospect of saving his life.

From the extent and situation of the tumour, he was apprised of the uncertain nature of the operation, as well as the difficulty of performing it, and indeed that it would require an artery to be tied, which never had been before operated upon for aneurism. With these views of his situation, he cheerfully submitted to be placed upon a table of suitable height in a room which was well lighted.

Then, in the presence of Dr. Osborn, Dr. Liddle, and Dr. Cross, the following operation was performed:—

The pubes and groin of the right side being shaved, an incision was commenced just above the external abdominal ring, and carried in a semicircular direction half an inch above Poupart's ligament, until it terminated a little beyond the anterior spinous process of the ilium, making it in extent about five inches. The integuments and superficial fascia were now divided, which exposed the tendinous part of the external oblique muscle, upon cutting which in the whole course of the incision, the muscular fibres of the internal oblique were exposed; the fibres of which were cautiously raised with the forceps and cut from the upper edge of Poupart's ligament. This exposed the spermatic cord, the cellular covering of which was now raised with the forceps, and divided to an extent sufficient to admit the forefinger of the left hand to pass upon the cord into the internal abdominal ring. The finger serving now as a director, enabled me to divide the internal oblique and transversalis muscles to the extent of the external incision, while it protected the peritoneum. In the division of the last mentioned muscles outwardly, the circumflexa ilii artery was cut through, and it yielded for a few minutes a smart bleeding. This, with a smaller artery upon the surface of the internal oblique muscle, between the rings, and one in the integuments were all that required ligatures.

With the tumour beating furiously underneath, I now attempted to raise the peritoneum from it, which we found difficult and dangerous, as it was adherent to it in every direction. By degrees we separated it with great caution from the aneurismal tumour, which had now bulged up very much into the incision. But we soon found that the external incision did not enable us to arrive to more than half the extent of the tumour upwards. It was therefore extended upwards and backwards about half an inch within the ilium, to the distance of three inches, making a wound in all about eight inches in length.

The separation of the peritoneum was now continued until the

fingers arrived at the upper part of the tumour, which was found to terminate at the going off of the internal iliac artery. The common iliac was next examined by passing the fingers upon the promontory of the sacrum, and to the touch appearing to be sound, we determined to place our ligature upon it about half way between the aneurism and the aorta, with a view to allow length of vessel enough on each side of it to be united by the adhesive process.

The great current of blood through the aorta made it necessary to allow as much of the primitive iliac to remain between it and the ligature as possible, and the probable disease of the artery higher than the aneurism, required that it should not be too low down. The depth of this wound, the size of the aneurism, and the pressure of the intestines downwards by the efforts to bear pain, made it almost impossible to see the vessel we wished to tie. By the aid of curved spatulas, such as I used in my operation upon the *innominata*, together with a thin, smooth piece of board, about three inches wide, prepared at the time, we succeeded in keeping up the peritoneal mass, and getting a distinct view of the arteria iliaca communis, on the side of the sacro vertebral promontory. This required great effort on our part, and could only be continued for a few seconds. The difficulty was greatly augmented by the elevation of the aneurismal tumour, and the interception it gave to the admission of light.

When we elevated the pelvis, the tumour obstructed our sight; when we depressed it, the crowding down of the intestines presented another difficulty. In this part of the operation I was greatly assisted by Dr. Osborn and my enterprising pupil, Adrian A. Kissam.

Introducing my right hand now behind the peritoneum, the artery was denuded with the nail of the forefinger, and the needle conveying the ligature was introduced from within outwards, guided by the forefinger of the left hand in order to avoid injuring the vein. The ligature was very readily passed underneath the artery, but considerable difficulty was experienced in hooking the eye of the needle, from the great depth of the wound and the impossibility of seeing it. The distance of the artery from the wound was the whole length of my aneurismal needle.

After drawing the ligature under the artery, we succeeded by the aid of our spatulas and board in getting a fair view of it, and were satisfied that it was fairly under the primitive iliac, a little below the bifurcation of the aorta. It was now tied—the knots were readily conveyed up to the artery by the forefingers—all pulsation in the tumour instantly ceased. The ligature upon the artery was very little below a point opposite the umbilicus.

The wound was now dressed with five interrupted sutures, passing them not only through the integuments, but the fibres of the cut muscles, so as to bring their divided edges together at all parts of the incision, which was muscular. Adhesive plaster to assist the stitches, lint and straps to retain it, completed the dressing. The operation lasted rather less than one hour.*

He was removed from the table, and put into bed upon his back, with the knee a little elevated upon pillows to relax the limb as much as possible, and to avoid pressure upon it. It was considerably cooler than the opposite leg, and flannels were applied all over it, and a bottle of warm water to the foot. From the habit he had been in of taking largely of anodynes, a tea-spoonful of the tinct. opii. was administered, with directions to repeat it in an hour if the pain should be severe.

In less than one hour from the operation, considerable reaction of the heart and arteries took place; he felt, as he stated, altogether relieved from the excruciating agony he had suffered since the aneurism commenced. The whole limb had now recovered its natural temperature.

March 16*th.* The day after the operation, pulse eighty, skin moist —limb warm as the other—complains of some pain at the ligature—ordered a purgative of neutral salts.

17*th.* Pulse eighty, and fuller than yesterday—took ℥x. of blood from his arm—skin moist—tongue brown—considerable uneasiness in the limb—no pain at the ligature—leg of natural heat—salts had a good effect.

18*th.* Pulse seventy-five—skin moist—tongue white—pain in the limb considerable—no pain at the ligature or in the wound—limb warm.

19*th.* Bled him to-day to ten ounces, the pulse being tense and

* Dr. Gibson, then professor of surgery in Baltimore, was near the spot during the riots in that city, when a man was wounded by a musket ball, "which entered the left side of the abdomen, passed through the intestines, opened the iliaca communis artery, and lodged in the sacrum." The doctor states, "thrusting into it, (the wound,) the forefinger of my left hand, I discovered that a very large artery had been torn across, and was pouring out blood in considerable quantity." The man died in a few days. "Upon inspecting the vessels of the abdomen," says the doctor, "I found that I had placed two ligatures upon the common iliac artery of the left side, one about half an inch below the bifurcation of the aorta, and the other immediately above the division of the artery into the external and internal iliacs." See Medical Recorder, Vol. 3, p. 185.

beating eighty strokes in a minute—repeated the cathartic—suppuration appearing to have taken place, the dressings were removed.

20*th.* Pulse seventy and soft—skin moist—wound looks well—pain in the limb continues—leg warm as the other—cathartic operated well.

21*st.* Pulse seventy and soft—wound looks well—repeated the laxative—pain in the leg rather less—continues warm. There has been at no time tension of the abdomen or any particular uneasiness in that part. The patient thus far has been altogether more comfortable than could have been imagined. He takes more or less opium daily, from the long habit he has been in of taking anodynes.

26*th.* No unpleasant symptom—wound looks well—bled again to ℥xij. as there was a little tumefaction and inflammation about the wound.

30*th.* Our patient continues to do well—wound dressed daily.

April 3*d.* Not being able to leave the city, I requested Dr. Proudfoot, my late pupil, and a most promising young surgeon, to visit the patient. He reports that he was free of fever—wound all healed but where the large ligature was passing. The ligature appearing to be detached, the doctor took hold of it and removed it: this was on the eighteenth day from the time of its application. Limb of the natural temperature—enjoined upon him to keep very quiet and in bed.

8*th.* There are no disagreeable appearances whatever—he appears to be doing remarkably well—has been bled once since the last report—takes a purgative every other day, and an opiate every night—pulse as in health—no pain—says he is entirely comfortable—wound is dressed with dry lint.

16*th.* Has improved rapidly since the last report. Two days after the ligature came away he very imprudently got out of bed without experiencing any difficulty, except weakness. Rode out to-day—wound perfectly healed.

26*th.* He has been using crutches for a few days to favour the lame leg, which, as yet, feels rather weak. General health greatly improved.

30*th.* Is perfectly restored in health—has a little stoop in his walk, which he says is occasioned by the external cicatrix. Leg is not yet of its full size, nor quite so strong as the other. From the period of the operation, to the recovery of our patient, he did not appear to suffer more pain, or have more unpleasant symptoms, than would ordinarily take place in a flesh wound of equal extent. Much of this, in my opinion, is to be attributed to the prompt and judicious antiphlogistic treatment pursued by Dr. Osborn, to whom I am indebted for the daily reports of the case.

May 29th. My patient visited me to day, having come twenty-five miles; he was so much improved in health that I did not recognize him. Examined the cicatrix and found it perfectly sound—could not discover any remains of aneurismal tumour—felt the epigastric artery much enlarged and beating strongly, and a feeble, though distinct pulsation in the femoral artery immediately below the crural arch. The leg has its natural temperature and feeling, and he says it is as strong as the other.

Much credit is due the patient for his firmness on the occasion; although apprised of the great danger attending so formidable an experiment, and the uncertainty of its result; yet with a fortitude unshaken, and a full conviction that it was the only chance of prolonging his life, he cheerfully and resolutely submitted to the operation.

The gratification his visit afforded me is not to be imagined, save by those who have been placed under similar circumstances. The perfect success of so important and novel an operation, with the entire restoration of the patient's health, was a rich reward for the anxiety I experienced in the case, and in a measure compensated for the unexpected failure of my operation on the *arteria innominata.*

New York, 25 Park Place, October 15th, 1827.

ART. X. *Notices of some Anomalous Cases of Dropsy.* By N. CHAPMAN, M. D.

IT is a common remark of writers, that in the commencement, as well as throughout the subsequent stages of dropsy, particularly ascites, there is sometimes almost as much distress from flatulence, as by the accumulation of the fluid. For this and several other reasons, I once thought it not unlikely, that occasionally the blood-vessels may, instead of a serous effusion, secrete a gas, which by some process not understood, might be converted into a fluid state. That the blood-vessels are capable, and do exercise such an office, has been shown by Mr. HUNTER, and is rendered probable by a variety of facts. Dropsy, I have seen in several instances to follow flatulent colic—and I had, some years ago, under my care, in consultation with the late Dr. WISTAR, the case of a boy, which strongly supports the hypothesis.

Having become heated and fatigued by skaiting, he laid on the ice, and after a time, was seized with colic, attended by a distention of the abdomen, amounting to tympanites. By carminatives, opiates,

and external warmth, he was speedily relieved of pain, but on our next visit, a few hours afterwards, we were astonished to find that he laboured under ascites, with œdema of the lower extremities, which proved exceedingly tedious, though he finally recovered.

During the summer of 1825, I had under my care a lady from the country, who, after eating watermelon and some other fruit, was attacked, according to her report, with violent colic, followed immediately by tympanitic distention. On examination I found she had confirmed ascites with œdematous swellings of her feet and ankles, from which she was relieved by copious diuresis and watery discharges from the bowels.

It seems, moreover, that dropsy may be induced by repelled perspiration, or in other words, by an inverted action of the exhalents. Cases to this purport have also come under my notice. Not many years ago, I attended a gentleman, with Dr. Physick, who, returning from a tiresome and dusty ride, went into a warm bath. The water was so uncomfortably hot, that he could scarcely bear it. He, however, continued in it for half an hour, and on coming out felt chilly and soon experienced the distention of ascites, and finally died of universal dropsy.

Nearly about the same time I was called to another gentleman, in consultation with Dr. Physick also, with general dropsy, who traced its commencement directly to his having imprudently plunged into a cold bath, whilst heated and sweating from exercise. Each of these individuals was in the meridian of life, of robust constitution, and previously in the enjoyment of perfect health.

These are anomalous cases, apparently exceptions to the doctrine of the universal and inseparable connection of dropsy with inflammation. But, perhaps, they may be reconciled to it. In the instances, for example, which were preceded by colic and tympanitic distention, it is not altogether unreasonable to suppose that the irritation was extended to the peritoneum, exciting phlogosis—and in relation to the others, succeeding to the use of the hot and cold bath, it is more manifest that there was a metastasis of the irritative impression made on the dermoid, to the serous tissue, and the effusion resulted accordingly. The external and internal exhalents act pretty much reversely, whatever is gained by the one is lost by the other, and very often there is an entire vicarious assumption of office respectively. The functions of the skin being suspended, what is more usual than to see some inward surface or organ increasing its efforts to compensate the loss. Generally, we have under these circumstances, watery diarrhœa, or an augmented urinary discharge. But imagine, that in-

stead of the bowels or the kidneys being thus affected, the peritoneum were excited, should we not be presented with hydropic results?

The doctrine, as now received, presumes that ascites is invariably the effect of pre-existing peritonitis, and especially of the sub-acute or chronic state of it, all the remote causes of the disease uniting to produce such an effect. Cases, however, of ascites, do sometimes follow the acute species of peritonitis, though always I believe, when it is originally weak, or much reduced and delicately diffused. The extravasation of coagulable lymph, or the secretion of pus is uniformly the product of it under opposite circumstances. But having so recently presented my views of the pathology of dropsy, I shall not here resume the subject.*

ART. XI. *Note of an interesting fact connected with the Physiology of Vision.* By JOHN D. GODMAN, M. D.

THE inverted images formed upon the retina in consequence of the passage of the rays of light through the apparatus constituting the anterior part of the eye, is well known not to lead to any inaccuracy of judgment as to the position of objects, in case the other senses are in their natural conditions. The following instance communicated to me by REUBENS PEALE, Esq. the uncle of the young man, is the only one with which we are at present acquainted, where the inversion of objects upon the retina was productive of inaccuracy of judgment as to position, notwithstanding all the other senses were in their ordinary condition, and the individual had arrived at the age of seven years.

When his father, who was a distinguished artist, began to give him lessons in drawing, he was very much surprised to find that whatever object he attempted to delineate, he uniformly inverted. If ordered to make a drawing of a candle and candlestick set before him, he invariably drew it with the base represented in the air, and the flame downwards. If it was a chair or table he was set to copy, the same result was the consequence; the feet were represented in the air, and the upper part of the object, whatever it might be was turned to the ground. His father, perplexed at what he considered the perverseness of the boy, threatened, and even did punish him for his supposed folly. When questioned on the subject, the youth stated that he drew the objects exactly as he saw them, and as his drawings were in other respects quite accurate, there was no reason

* Vide Philadelphia Journal of the Medical and Physical Sciences, Vol. IV. N. Series, No. 8. p. 298.

to doubt his statement. Whenever an object was inverted previous to his drawing it, the drawing was made to represent it in its proper position, showing that the sensations he received from the eye, were exactly correspondent with the inverted pictures formed upon the retina. This condition of his vision was observed to continue for more than a year, when his case gradually ceased to attract attention, which was when he was about eight years old. Since that time he has imperceptibly acquired the habit of seeing things in their actual positions.

[The above case is highly curious and interesting. Professor CHAPMAN has met with one somewhat similar. A distinguished lawyer of this city for some time saw all objects inverted; thus the houses seemed to stand on their roofs, people on their heads, &c. This defect in vision was occasioned by disorder of the stomach, and ceased on that organ being restored to a healthy condition.

Several cases of anomaly of vision, of great interest as connected with the physiology of that function are on record, some of which it may be interesting to notice. Dr. WOLLASTON, in consequence of violent exercise, suddenly found that he could see but half the face of a man whom he met, and it was the same with every object he looked at. Thus, in attempting to read the name Johnson over a door, he only saw —— son, the commencement of the word being invisible. On this occasion the loss of sight was towards the left—it was of short duration. Several years afterwards he had a recurrence of the affection, but on this occasion the blindness was the reverse of the former, being to the right. It continued twenty minutes, and was suddenly removed by the excitement of agreeable news. Dr. W. has met with other instances of half blindness.*

Dr. CRAWFORD relates the case of a female who was attacked with a slight hemiplegia of the left side. The patient regained the use of her limbs, but from the time of her seizure till her death, which happened about five years afterwards, when she looked at an object, she could only see the one-half of it, that was towards the right hand,

* Reasoning on these facts, Dr. Wollaston is led to conclude that decussation takes place between the adjacent portions of the optic nerves. Thus, that the portion of nerve that proceeds from the right thalamus to the right side of the right eye, passes to its destination without interference, and in a similar manner the left thalamus will supply the left side of the left eye with a corresponding portion; while the remaining portions of both nerves pass over each other, to the eye of the opposite side, intersecting each other, either with or without intermixture of fibres. This opinion is strengthened by the observations of Treverinus on the Simia aygula, and the observations of D'Azyr and the Wenzels on the optic nerves in man.

distinctly, the other being very obscure. This was equally the case whether she looked with both eyes or only with the right one; but when she looked with the left only the obscurity was greater. When four fingers were held before her, she could see two of them distinctly, the third she could distinguish, but could not see plainly, and the fourth she could not see at all. When she looked at three fingers she could see two of them pretty plainly—the first, however plainer than the second—the third she could not distinguish at all. When she looked at two fingers she could see only one distinctly.

After she had recovered so as to be able to get out of bed, it was discovered that, although she could see only half of an object plainly, when held directly before her, yet if it was moved towards her right hand, and she continued to look straight forward, she could see the whole of it distinctly. On the contrary, if it was moved toward her left hand, keeping her eyes fixed as before, she could not perceive any part of the object. It should be remarked that it was the left side of the body that was hemiplegic, yet it was the right half of each retina which was insensible.

The writer of this note has been twice affected with a species of half blindness, somewhat different, however, from any he has seen recorded. About twelve or fourteen years ago he was struck with the circumstance of his only seeing a portion of the objects at which he looked, and in order to satisfy himself respecting the state of his vision, he took a book and attempted to read. The lines appeared distorted, thus in looking at a word containing several letters, the first few were seen in their natural position, the remainder were invisible, but upon looking more attentively they were seen just above their natural position, as if occupying the line above, this line not being visible; on moving the eye along, these displaced letters became visible in their natural position, but the next word was seen in the situation of the line above, and so on. It was only when a strong effort to read was made that this distorted appearance was made out, when looking at the page, generally, a portion of it was seen tolerably distinctly, the remainder had a most confused appearance. The second attack was similar to the first—it occurred at an interval of two or three years. In both instances the affection was produced by gastric derangement, attended with considerable head-ache, it went off entirely when the cause was removed—neither continued longer than a few hours.

There is a respectable inhabitant of this city, who for years has had a derangement in the vision of his right eye, all objects that make a strong impression on the retina, as a lamp at night, appearing multiplied sometimes to the extent of seven or eight. I. H.]

REVIEW.

ART. XII. *An Act for establishing a Health Office, and to secure the City and Port of Philadelphia from the introduction of Pestilential and Contagious Diseases, and for other purposes, passed January 29th*, 1818, *with its supplements of the years* 1821, 1824, 1826, 1827.

An Act to provide against Infectious and Pestilential Diseases, passed March 21st, 1823. *New York.*

An Ordinance to preserve the Health of the City of Baltimore, and for the due performance of Quarantine at the Port of Baltimore, 24th March, 1826.

City of Boston. An Ordinance Establishing and Regulating the Quarantine of Vessels, &c. Dec. 25, 1826.

THE imperfection and uncertainty in the science of medicine, have been a fertile source of complaint among the enemies of the profession, who have derided its theories and depreciated its doctrines, without comprehending the difficulties attendant upon its acquisition, or the extent of talent and observation necessary for its acquisition. Unfortunately we cannot deny that there is but too much truth in some of the allegations. In reviewing the annals of our art, it is mortifying to our pride to perceive that whilst other sciences have steadily advanced in usefulness, ours, certainly one of the most important and indispensable to human happiness, has remained a fearful distance in the rear.

There is no point connected with medicine that more strongly exemplifies the striking diversities of opinion among us, than that of contagion and the importation of pestilential diseases—no subject connected with our art has created more diligent inquiry, or more bitter controversy; volumes have been written on the subject, and as is too often the case in disputes, with little more effect than to confirm the authors in their preconceived opinions. That this point should have so generally attracted the attention of physicians in all ages, is not to be wondered at, as there is no question relating to medicine of deeper or more vital importance, not only as involving the commercial welfare and prosperity of our maritime cities, but also as intimately connected with the general safety of their inhabitants.

This question involves the patriotic feelings of physicians in every country, hence some are to be found who deny the possibility of the disease having originated with them; asserting that in every case it has been derived from abroad, and endeavouring to persuade themselves and the public, that the proofs of its foreign origin can always be readily traced to some vessel with the disease on board, that has arrived from a foreign port; whose inhabitants, on the contrary, are as firmly convinced that they have derived it elsewhere. This has been strongly exemplified in the United States in 1819, when in most of our seaports there was exercised a rigid system of quarantine as regards each other, whilst at the very time the yellow fever prevailed to a greater or less extent in them all; thus proving most incontestably either that the present quarantine laws are absurd, and that commerce is uselessly burthened with heavy expenses and vexatious delays—that the fears induced by the belief in importation and contagion are not only dangerous to the community, but destructive of the best feelings of humanity—and that the disease is wholly domestic in its origin, and depends on local circumstances for its appearance and prevalence; or, that if the doctrine of contagion be founded on fact, that the laws now existing are deficient in their operation, and require a total revision; for, should such be the case, quarantine restraints cannot be too rigidly enforced, at whatever may be the individual loss or suffering.

But, from facts too well authenticated to be denied and too irrefragable to be refuted, a change is certainly taking place in the sentiments of medical men on this subject. The study of epidemic diseases on philosophical principles is of comparatively late occurrence: formerly, physicians were content with noting their progress and detailing their symptoms, without attempting to explain their laws or trace their origin; but a better state of things exists at present, and in consequence of the unwearied exertions and philanthropic researches of many of our brethren, much light has been thrown on this intricate subject, and we have a right to look forward with confidence to an era when the mists of prejudice and error which now envelop it will be entirely dispersed.

It has been unfortunate for the advancement of our art, that we are constantly called upon to combat opinions and errors which have originated from the profession itself; there is scarcely a theory, however absurd, or an opinion, however false, relating to medical subjects, which have not once been considered as truth; these in progress of time have been discarded by physicians, but still remain as dogmas among the generality of mankind. The multitude are more apt to

adopt than to form an opinion; and it is a just observation of a late writer, "that it is easier to think from other people than from one's own mind; the opinions of men are like their dress; they are made by another person, but once adopted and worn, become property;" but error thus engrafted on mankind, becomes every day more fixed, and as it is transmitted from age to age, acquires greater strength, and at last entwines its roots so firmly and pertinaciously with all our opinions and sentiments, that it becomes almost impossible wholly to eradicate it.

England and the United States are, we believe, the only nations of Christendom in which a code of laws for the preservation of the public health, does not form a material part of the jurisprudence of the country; we have, it is true, in all our maritime towns, quarantine regulations to guard against the introduction of pestilential and contagious diseases from abroad, these laws also include a few provisos for the removal of any sources of infection that may exist independently of those arising from shipping, but here they end, both countries are alike destitute of a general medical police, which of all laws is the most onerous and unpleasant, and fortunately from the habits and character of the people, it would be wholly unnecessary.

All our quarantine regulations are founded on the assumption that epidemic diseases are dependent on a specific contagion, and hence are intended to prevent the importation of a virus, but it must be admitted by the most strenuous adherent of the doctrine, that they are extremely deficient in their operation, and are not capable of fulfilling the intentions for which they were instituted; as a proof of this, we need but advert to the fact, that although we have had quarantine laws in Philadelphia since 1700, yet the yellow fever has made its appearance in 1746, 1747, 1748, 1751, 1762, 1793, 1797, 1798, 1799, 1802, 1803, 1805, 1818, 1819, 1820, 1825: in fact, as is observed by Maclean, "upon every principle then, whether of the utility or perniciousness of sanitary laws, the subject remains in a most unsatisfactory state."

We are by no means advocates, in the present unsettled state of our knowledge on the subject of contagion and of epidemic diseases, for the abolition of quarantine laws; indeed, should it be proved most incontestably that we have never derived the yellow fever from abroad; still a due observance of certain precautionary measures at quarantine stations towards all vessels arriving during the summer months from tropical climates should always be adopted and strictly attended to, for although the disease may not be contagious and never imported into our towns in a developed form, still there can be but little doubt

but that many of our pestilences have been satisfactorily traced to shipping, and in some instances where the vessel had arrived from a port in which the fever did not prevail at the period of her departure, and whose crew were all landed in a healthy condition. By the mode pursued at present with some variations in all our seaport towns, the only real way in which importation can take place is in a great measure overlooked; in the city no vessel is detained at quarantine or cleansed, unless she arrives from a port at which sickness prevails, thus acting exclusively on the idea that the fomites must exist in a concentrated form before any danger is to be apprehended, and thus leaving many abundant and prolific sources of disease wholly unnoticed, for as we have before observed, we have instances where the fever has originated from shipping in cases where they had arrived from a healthy port, and without having had any sickness on board.

Dr. Maclean, who has lately published a work on the "Evils of Quarantine Laws, and the Non-existence of Pestilential Contagion," has gone much further than our knowledge respecting contagion will warrant. The ground work on which he has erected his speculations is perfectly good, yet his deductions are, in many instances at least, assumed. When he attempts to prove that the belief in the doctrine of contagion is untenable and fraught with danger, we cannot deny the validity of his arguments, but when he insists on the total abolition of all sanitary laws, his arguments although exceedingly ingenious, must fall to the ground, as they are but based on an unsubstantiated hypothesis; nevertheless, we are much indebted to him for his researches, as it has induced a series of investigations on this most important question from which valuable results may be expected.

But we shall leave this part of the subject for the present, and proceed to an analysis and history of our health laws as far as we have been able to obtain them. We are conscious that there are many deficiencies in our quotations from the laws of other cities, but the only documents to which we have had access, have been their respective city ordinances and printed health laws.

The first enactment of a law for the protection of Philadelphia from contagious diseases, appears to have been passed 12th William 3d, 1700; it provided that no unhealthy vessel coming from an unhealthy or sickly port, should come nearer than one mile to any port within this jurisdiction, without a bill of health, or land any person without permission, under a penalty of one hundred pounds. This law remained in force until 16th George 2d, 1742, when an act was passed, authorizing the purchase of Province Island, and the erection of a lazaretto thereon, and vesting the same in trustees. In 1774,

the colonial assembly passed an act, which embraced several new regulations, which were in 1803 annulled, and the legislature created a Board of Health under that title, with a code of laws for their government, by which the governor was directed to appoint five persons to act as members of the board, with a salary of five hundred dollars each, viz: three from the City, one from the Northern Liberties, and one from Southwark, not more than two of whom were to be physicians. Some objections having been made to this part of the law, the legislature again took up the subject in 1818, and altered the law in several of its features, the principal of which was, that the Board was thereafter to consist of eleven members, six of whom were to be appointed by the councils of the city, two by the commissioners of the Northern Liberties, one by the commissioners of Penn Township, one by the commissioners of Southwark, and one by the commissioners of Moyamensing; since which time Kensington having been incorporated, also elects a representative, so that at present the Board consists of twelve members.

In Baltimore the health law of 1826, provides for the appointment of three commissioners of health, who, with a consulting physician, form the board. The health law of New York does not specify the number of members of the Board; it is to consist of such persons as the mayor and councils of New York shall appoint. The Charleston board is composed of thirteen commissioners chosen by the city council; in Boston the corporation of the city appear to act as a Board of Health.

The powers granted to the boards are necessarily very great, although in some instances they fall short, and hence are inadequate to produce the good effects that were intended.

Those granted to the Philadelphia board, are

"The said board shall have, and hereby is vested with full power and authority to make general rules, orders, and regulations, for the government of the lazaretto, and the vessels, cargoes, and persons there detained under quarantine, and of the Health Office and public hospitals, and for the mode of visiting and examining vessels, persons, goods, and houses, and shall also have power to appoint such officers and servants as may be necessary at the Health Office, Lazaretto, and the City Hospital."

The lazaretto is also vested in them with full power to erect such buildings, and make such enclosures as to them may seem fit; also, whenever they shall receive information that any malignant or contagious disease prevails in any port or place in the United States, they may prohibit all communication with such place, except under such regulations as they shall direct, and remove any person coming from

such a place, to a spot by them directed, to remain there for a time not exceeding twenty days; also to remand all vessels coming up to the city, if thought dangerous to the health of the community; they may also order off all vessels from any part of the city when said spot shall be infected with a contagious disease, and when a malignant disease appears in the city, to take such steps for preventing the spreading of the contagion by forbidding all communication with the sick, and other means as shall be most conducive to the public good—patients removed are to be taken to the city hospital—to defray their expenses in cases of malignant fever, they are authorized to levy a tax of fifteen thousand dollars with the consent of the mayor, two aldermen, and two justices of the peace. The board have also the power to order the removal of all nuisances at the expense of the owners of the property on which the nuisance may exist.

The powers granted in the New York board appear to be all specific, and do not embrace as wide a scope as those bestowed on that of Philadelphia; for although they have the charge of the quarantine establishment with power to make certain regulations, yet in cases of a malignant disease existing at other ports, the proclamation forbidding intercourse with such place must come from the governor of the state, the mayor of New York, or the recorder.

The board can send vessels down to the quarantine ground, if they should be thought prejudicial to the health of the inhabitants, and continue the detention as long as they shall deem necessary. As is the case in Philadelphia, the marine hospital at the quarantine ground is vested in them. They also have the right on the appearance of a contagious disease, to prevent all communication with the sick; they can also appoint health wardens, whose duty shall be to visit and examine houses, &c. and if found in a filthy condition, to cause them to be cleansed; the board also have power to fence up any street, &c. when from the prevalence of a contagious disease they shall deem it expedient; all nuisances are to be removed by a process of common law.

In Baltimore the duties of the board are more extended in many particulars than in either of the last mentioned cities, as they also act in the capacity of city commissioners, and have the superintendance of the cleansing of the streets, &c. With respect to removal of persons in cases of contagious disease, they have very great powers, as they can order any one to be removed under a penalty of twenty dollars for every twenty-four hours such person shall remain after the order shall have been served; they can also fence in all districts in which a malignant fever appears, they have also a power which should be given to all the Boards of Health, namely, that of causing

any wharf or dock which they may deem prejudicial to the health of the city to be either repaired or cleansed out; whilst alluding to the subject of wharves, we would also mention that no wharves in Baltimore can be erected or repaired except in stone; this regulation is of extreme importance, and should be adopted in all our towns.

In Charleston much the same powers are granted.

Not having access to the health laws of Boston, we are unable to say more than that the powers appear to be vested in the mayor and corporation of the city, who regulate the quarantine of vessels, and other matters connected with the general health of the city.

They appoint in June, annually, five physicians, to whom, on any alarm of small-pox, or other contagious disease, the mayor is to apply for advice; the mayor and aldermen also have power to remove, or cause to be removed from any part of the city any person labouring under a contagious disease, provided a majority of the physicians shall deem it necessary; they also order any houses to be vacated for such time as the physicians shall think expedient, and the safety of the inhabitants may require.

It is evident from the above condensed view of the general duties of the different boards, that they are endowed with a despotic power in some instances, and are deprived of it in others, where, if it should ever be granted to corporate bodies in a republican government, it would be most conducive to the public good. What we particularly allude to, is removal of persons affected with contagious and malignant diseases, either to a hospital, or to some place where the disease would not be likely to prove injurious to the community at large. In the case of small-pox this would be highly important, and would give a Board of Health an almost complete control over the disease. As the law at present stands, both in Philadelphia and New York, no one can be removed without their consent being obtained; the boards, it is true, have the power of prohibiting all intercourse with the diseased, but there are so many circumstances which must necessarily contravene the full enforcement of such a regulation, that it must generally prove ineffectual. Baltimore and Boston have given such power to their boards, as we have before observed, under certain penalties; this power, which certainly does not militate against the rights of our citizens, might be advantageously granted by the legislatures of the different states to the boards under their control.

We will now proceed to the subject of quarantine as ordered in the different cities we have noticed; this we conceive to be the most defective part of our health regulations, as being onerous and oppressive to the mercantile interest, and not fulfilling the intent for which the

laws have been established. There is no inquiry of more importance than that of the measures to be adopted to guard against the introduction of contagious and malignant diseases: experience has shown, that the mode now adopted in all our seaports, being directed wholly against a specific virus, cannot be effectual in preventing the introduction or origin of yellow fever, as it may arise not only from foreign but domestic sources, and in both instances appears as a partial or a general epidemic not dependant on contagion properly speaking, either in its origin or subsequent progress. It may be asked, if the disease is not contagious, how then can it be traced to shipping, or how can vessels arriving from certain climates be considered as causing the disease? This question may be readily answered; from the accumulation of foul and contaminated air contained in their holds, arising either from a putrefaction of part of their carges, or the filthy condition of their lining and timbers, to both which circumstances vessels from tropical climates are extremely liable from the nature of their cargo, consisting for the most part of vegetable matters, as sugar, coffee, cocoa, &c., and the heat to which they are necessarily exposed; should they be in a leaky condition, and thus damage part of their loading, putrefaction and its consequences, the evolution and extrication of great quantities of deleterious and offensive gases, must inevitably ensue, which being confined and concentrated from the closed state of the hold, may not affect the crew during the voyage, but on their arrival and subsequent opening of the hatches, are poured out in streams, and constitute a prolific source of disease; this appears to have been the case with the ship Deborah, to which the origin of the yellow fever in 1793, was distinctly traced, and in the Ten Brothers at Boston, which caused the fever of 1819, in that place. The fever of 1799, in Philadelphia, was also proved to have originated in the first instance from the sloop Mary, but under somewhat different circumstances, although still from the same causes; in this case the vessel landed her cargo perfectly sound, nor were any of her crew sick during the voyage, when however the cargo was discharged, she was washed out and her hatches closed, but there still remained a quantity of coffee in her hold, which exposed as she was at the wharf to a high temperature for about three weeks, ran into putrefaction, and evolved an immense quantity of noxious vapour; this became so offensive that she was ordered to be ventilated and cleansed, the consequence of the escape and dispersion of this exhalation was, that many persons in the neighbourhood were seized with symptoms of yellow fever. In this case there is most unequivocal testimony that the disease does not require a specific virus

for its origin, and that it may arise from causes wholly unconnected with contagion, and which strict regulations properly enforced would always remove. But even under such circumstances, it appears to require a certain state of the atmosphere before the fever can be generated, as there is scarcely a year in which the above mentioned sources do not exist, yet all are not marked by the visitation of pestilence. From a paper given in the Eclectic Repertory, derived from Poulson's Daily Advertiser, it is shown that the yellow fever has never prevailed to any extent in Philadelphia, unless the mean heat of the thermometer at 3 P. M. during the summer, and especially during the months of June and July should be as high as seventy-nine degrees; there may be it is true a few sporadic cases, but the disease did not spread. Another state of things may also prevail which may give rise to it; from domestic sources there may be a predisposition to the disease, in the inhabitants of a port which only requires some exciting cause to develope, this may be furnished by a vessel arriving from a tropical climate, the state of whose cargo or condition of whose hold, although not sufficient in themselves in a healthy and uncontaminated atmosphere to cause disease, yet when combined with sources of disease on shore, may thus like a spark to a train of powder, induce the immediate development of pestilence. From what we have said it must be evident that we consider that the great object to be enforced in quarantine regulations, is to prevent the introduction of noxious matters from vessels or their cargoes; therefore no vessel coming from a warm climate, or having cargo on board which from its nature being liable to putrefaction, should be permitted to approach the city until she had been thoroughly cleansed and purified, and any part of her cargo that was damaged, detained until the approach of cold weather precluded all fear of its proving a source of disease. As will be seen, the quarantine regulations respecting passengers are extremely strict and calculated to oppress many who are little able to bear the additional expense the detention they experience necessarily entails on them. If facts and reasoning are to be relied upon as regards the contagion of yellow fever, there cannot be a shadow of reason for detaining them at a quarantine establishment; should they even be so unfortunate as to be attacked by disease, there is but little danger of their communicating it to others; we can even conceive that in some instances passengers taken ill of yellow fever after their arrival from a warm climate, in our city, during the summer season, may have been attacked by the disease even while none of the inhabitants were affected, from their not having been accustomed to those sources of disease, to which those residing

on the spot for some time are wholly innoxious from habit; that this takes place in southern ports, is too notorious to need a comment; every stranger arriving at New Orleans is considered as obnoxious to the attacks of yellow fever till he has been acclimated, or passed one summer there; even this in many cases is not sufficient to accustom his constitution to certain agents which appear to have little or no effect on the natives of the place.

The health law of Philadelphia, after specifying the fees to be demanded from vessels arriving at the port, and the duties of the officers of the Board, goes on to state those cases in which vessels are to be detained. "If it shall appear upon examination, that the ship or vessel came from a port or place at which a malignant or contagious disease prevailed, such vessel shall be detained at the Lazaretto for such time as the Board of Health may deem necessary, not exceeding twenty days. And the Board of Health shall determine and direct what measures shall be pursued to cleanse the vessel and cargo, purify the clothing and baggage, and restore the health of diseased persons on board." Certain goods, however, are permitted to be brought to the city in lighters, such as wine, sugar, rum, &c. At the expiration of the twenty days, if none of the crew or passengers have been attacked with a malignant or contagious disorder, the Board may allow the vessel to proceed to the city, but in cases where sickness has prevailed to a limited extent, either during the voyage, or since her arrival at quarantine, the vessel shall be detained such further time as the Board shall deem necessary; this in general has been twenty days from the sickness or death of the last person attacked; when, however, there has been much sickness on board, the vessel is to be discharged, and the cargo, except such articles as have been specified, shall be stored, the Board may however grant permission for the whole of the lading of a vessel thus detained to be brought to the city in lighters; the vessel in cases where she has been in a filthy and offensive condition, is not permitted to come up to the city during the quarantine season, but must take her outward cargo on board at the Lazaretto.

The vessels which are subject to detention are—1. Those from a foreign port at which sickness may prevail, or those detained under a special order of the Board.—2. Vessels from a port in the United States which have only touched there on the voyage from a foreign port.—3. Vessels from the Mediterranean; in the latter case should any of the crew or passengers have been attacked with the plague during the voyage, the vessel must be unloaded and her cargo cleansed, and no part permitted to enter the city for twenty days.—4. All vessels from infected ports in the United States—by the supplement

of 1821, all vessels coming from the southward of Cape Fear, are subject to detention at the Lazaretto, and all vessels having on board vegetables, fish, or hides, are not permitted to discharge their cargo until a permit shall be obtained from the Board of Health, and also that within forty-eight hours after the discharge of every vessel, the captain, owner, or consignee must report the same, and the Board, if they think proper, shall have said vessel cleansed and purified.

From a fear of extending this paper beyond our limits, we have only given a general view of the operation of the quarantine law in this port, avoiding as much as possible entering into the particular rules, regulations and penalties, detailed in the law, under each of the heads we have noticed: it will be perceived that the law is very general, and thus leaves the particular application of it to the Board: in this it differs materially from almost all the sanitary laws of Europe, which are extremely minute in detailing all ports to which the restriction is to extend, thus defeating in a great measure any good which might arise from the restrictive system, for it might often occur, that whilst not one of the interdicted ports was afflicted by disease, vessels would arrive from others on which no restriction was laid, and which, notwithstanding, were devastated by pestilence: thus for instance, in the case of small-pox, which occurs in ports never considered as liable to contagious diseases, and hence are unrestricted, vessels might arrive with the disease on board, and in a short time affect a whole community—that such has been the effect even under the wide scope of our law there can be no doubt; many of the first cases of last spring were distinctly traced to emigrants from Nova Scotia, where it had prevailed to a considerable extent. We will now compare the laws of our cities on this point.

By the New York law, "every vessel arriving from any port, island, or other place, in Asia, Africa, the Mediterranean, America lying south of Georgia, or from any of the West India, Bermuda, or Western islands, and all vessels from foreign ports having on board forty or more persons, and all vessels on board of which any person shall have been sick, or died while at a foreign port, or on the homeward passage," may be quarantined at any time of the year, and if arriving from the West Indies, or from America south of St. Mary's in Georgia and north of the equator, or from any port or place in the continent of Africa, or islands near the same, between the 31st of May and 1st of October, shall be detained at least two days at quarantine, or as much longer as the health officer shall deem necessary, and the vessel ventilated and cleansed, &c. After the officer shall permit her to depart she is not to come within three hundred yards of the city, until she shall have been again inspected by a person ap-

pointed for that purpose by the Board of Health. The law also enacts "that every vessel arriving in the port of New York, from any port, island, or place, in the Mediterranean, in Asia, in America south of the equator, or from the Madeira, Canary, Cape de Verd, Western, Bermuda, or Bahama islands, between the 31st of May and 1st of October," shall remain two days at quarantine, and be cleansed and purified, and when released, shall as in the preceding instance, not approach the city within three hundred yards, except specially permitted; all vessels from the southward of Cape Henlopen are also subject to quarantine, or from ports north of that when they have foreign merchandise on board; all vessels coming from a port in which yellow fever existed, or on board of which any person has been sick or died, are to be detained thirty days, and twenty days after the discharge of her cargo, the cargo to be ventilated and cleansed, and then on an examination by the agents of the board may be permitted to be landed. The crew and passengers must also remain twenty days from their arrival, or fifteen after the last sickness or death on board. The restriction on passengers is also extended to all persons from other ports or places in the United States, America, or West Indies, south of St. Mary's in Georgia, who are not to enter the city under twenty days from the time they sailed. Whenever the governor of the state, the mayor of the city, or recorder, shall receive information of the prevalence of a contagious fever at any place, he shall issue a proclamation prohibiting vessels from coming from such place, and also cut off the intercourse by land.

In Baltimore, the quarantine law is more general in its operation than in Philadelphia. It provides "that all vessels arriving from foreign ports or coastwise, between the 1st of May and 1st of November, shall bring to below the city, and there remain until visited by the health officer," who shall either permit her up to the city, or if there has been sickness on board, or other circumstances which he may consider dangerous to the health of the city, shall order her to the Lazaretto, there to be discharged, cleansed, and purified.

The Boston law enacts, "that from and after the 15th of June annually, and until the 15th of September in each year, a quarantine shall be had on all vessels, &c. that come within the harbour of Boston on board of which any person shall have died or been sick of any infectious or contagious disease during the passage to Boston, or which are from, or have brought their present cargo, or part thereof, from any port or place in the West India islands, or from any port or place within the tropics, except from beyond the Cape of Good Hope, or Cape Horn, or from any port or place within the Straits of Gibraltar, or from any port or place wherein infectious or con-

tagious disease doth prevail, or recently hath prevailed." It also provides, that vessels may be quarantined, coming from any place in the United States on board of which any person shall have died or been sick of an infectious or contagious disease. The sole control of all vessels at quarantine, is vested in the resident physician, who is to report daily to the mayor and aldermen.

Such are the quarantine regulations in some of the principal cities of the United States. We have been obliged to condense them as much as possible, in order to be enabled to touch on some other points connected with our sanitary laws. It will, however, be seen, as we have observed on entering on this subject, that they are all founded on the assumption of yellow fever being contagious, or capable of being imported in a developed form; they however differ materially in their severity and operation; that of New York, being the most specific as to the places and objects towards which the quarantine is to be exercised. The Boston and Baltimore laws give a wide scope to the officers acting under them, and if carried into effect in a proper manner, will do every thing that can be expected from quarantine regulations; in fact, to obtain those benefits from restrictions on vessels which is attempted by our different laws, every vessel, and from whatever port, should be visited and examined at a quarantine station, and if found filthy and offensive, she should be detained; but in a clean and healthy condition, there can be no danger to be apprehended in permitting her up to the city, even coming from what are considered as infected ports.

The only points connected with our health laws, we shall now notice, are those regulations to guard against any domestic sources of disease, and the plans adopted to prevent the spreading of an epidemic, when it unfortunately has made its appearance; these are of extreme importance, and merit the utmost attention, as in fact, much more is to be expected from them than can be effected by the present mode of quarantine. The health laws of each of the cities provide for the removal of all nuisances existing within the precincts of their authority which may be considered as injurious to the health of the inhabitants. There is, however, one important source of noxious exhalations which is overlooked in all the health laws to which we have access—we allude to grave-yards within the limits of our cities. This calls most imperiously for the interference of our constituted authorities. In our city many of them are becoming extremely crowded, and require to be closed. We are aware that Diemerbroeck and Bancroft have satisfactorily proved that the effluvia arising from the decomposition of animal matters are not capable of generating an epidemic disease, but at the same time there can be but little

doubt that it tends to the deterioration of health, and should in all cases be either removed or destroyed by such means as will diminish their evil effects on the human system. Dr. PASCALIS, of New York, has given an able and learned exposition of the dangers arising from the practice of interments in large cities, to which the attention of different Boards of Health cannot be too strongly directed. Although we do not agree with the learned author in all his conclusions, yet we feel perfectly convinced of the truth of his general argument, and would rejoice to see an entire prohibition of all places of interment, at least within the populous part of the city. It is true that the expense and difficulty of transporting the dead to a distance are objections, but still in this, as in all other circumstances connected with the public weal, private convenience should give way to general policy.

The last point we shall notice, is that of Vaccination. This, in most of our cities, does not come under the cognizance of the Board of Health, although the care and responsibility of preventing the ravages of the small-pox forms by no means an unimportant part of their duties. In Philadelphia, the Mayor appoints a Vaccine Physician, with four collectors of cases; his duty is to vaccinate gratuitously all persons who are unable to pay for this operation; this mode is also pursued in the districts. In Baltimore, the Board of Health appoints six physicians for this purpose. In the other cities we are ignorant what plan is pursued, but as we find no allusion to it in their respective health laws, we take for granted that, as in Philadelphia, it does not come under the cognizance of the Boards of Health. It must appear evident that this division is hurtful, and in some measure prevents the usefulness intended by the framers of the law. From the laws existing in all our towns, physicians report all cases of small-pox, as well as of contagious fevers, to the different boards; hence these bodies would at once be enabled to take measures to check the disease, by adopting more rigorous and effective modes of extending the benefits of vaccination by appointing additional physicians and collectors of cases. This applies more forcibly to Philadelphia than to any other of our towns, as from the number of corporations composing the government of it, it is almost impossible to act with unanimity and decision on a point which, to be effectual, must be general. This can only be effected by the Board of Health, which is endowed with powers which extend not only over the city, but also over the districts. By placing this duty in their hands, the system would be uniform throughout, and prevent the clashing of interests which, from the present plan must necessarily ensue. It might be objected that it would increase materially the expenses of the Board, which

are already great. This, it is evident, must be futile, as if even the Board should be obliged to levy a tax for the purpose, it is one which, as tending to the safety and welfare of the community, would be most cheerfully acquiesced in; added to which, it surely would be perfectly immaterial whether the money is raised for this purpose by the Board of Health or by the constituted authorities of the city and districts. In fact, viewing it in every light, we are convinced that it would be advantageous to delegate the duty of extending the benefits of vaccination to the Board of Health.

Before concluding this brief analysis of our sanitary laws, we will venture to throw out a few suggestions as to what should constitute one which would act with more certainty and effect than any which we have at present in operation in the United States. Each that we have perused contain some salutary provisions which are wanting in the others, and most contain clauses which, to say the least of them, are ineffective in their operation, and only tend to harass commerce without attaining the end for which they were enacted. At the same time, we are doubtful if any laws, however perfect they may appear in theory, will ever prevent the recurrence of the yellow fever in our maritime cities; the sources from which it may arise are so numerous and diversified, and depend so much on circumstances over which we have no control, that it is next to an impossibility to guard against them all, however strict may be the laws, and however vigilant the Boards of Health. But, although we may not be able to prevent its origin, there can be but little doubt but that a stop can be put to its general prevalence; this has been most satisfactorily proved both in this city and in New York. Let it arise from whatever cause, whether from sources existing in the town, or from shipping, it always commences at a point, and gradually extends itself as the atmosphere becomes contaminated, subjecting all who are exposed to its deleterious effects to an attack of the disease; should no check be put to its progress, the circle gradually increases, and finally spreads to such an extent, that all human means are insufficient to stay its increase, except a total abandonment of the infected district; but on its first appearance, should this space be cleared of its inhabitants, and all access to it prohibited, until it had been thoroughly cleansed and purified, and the occurrence of frost had entirely removed all infection, it may be completely commanded and subdued.

The health laws of the United States should be identical and consentaneous in their operation: as these regulations can never emanate from the government of the United States, being by right under the jurisdiction and control of the state sovereignties, the only mode to arrive at this desirable end would be a law framed by delegates from

the different states, and enacted by their respective legislatures, whose provisions should be the same as far as the situations of the places would allow.

All vessels from tropical climates, whether from healthy or unhealthy ports, should be obliged to stop at quarantine until they had been cleansed and ventilated, and the state of their cargoes examined; if these are found in an unsound and putrifying state, they should be discharged, and the unsound parts separated and detained, whilst the sound, after having been purified, might be permitted to proceed to the city. After a vessel has been discharged in port, she should undergo a thorough and complete ventilation and purifying under the inspection of an officer appointed for that purpose.

Passengers should be permitted to leave quarantine, unless when labouring under disease.

The boards should be endowed with full powers, on the appearance of a contagious or malignant disease, to remove all those attacked, and if necessary, to vacate and prohibit all intercourse with that part of the town.

They should have the power to cause to be removed all nuisances, which might tend to the deterioration of the health of the city, and in such cases should have a lien on the property for any expenses they might incur; they should have the right to prohibit interments in the populous parts of the city, especially during the summer months. The law should also prevent the erection or repair of any wharf or dock, except with stone; the wharves should also be paved and regularly cleansed, and the docks should be of such a depth as never to be uncovered during low tides.

It will be perceived that we have proposed in the above, that the boards should be endowed with almost unlimited powers. A health law to be effectual must be arbitrary, and admit of no dispute. If such enactments are to do any good, they must be rigorous, as half-way measures only tend to oppress, without effecting the proposed beneficial ends. But a great deal depends upon the confidence with which the public may repose in these institutions. The office of guardians of the public health, necessarily entails on its holders many unpleasant and onerous duties; these are often aggravated by the attempts which are made to cast an odium on their proceedings, and to thwart them in the discharge of the trust reposed in them—at the same time it is also the duty of the different boards to have no concealments from their fellow citizens, but to act with openness and candour. By such a line of conduct they will always secure to themselves the thanks of the humane and unprejudiced.

R. E. G.

BIBLIOGRAPHICAL NOTICES.

1. *Lectures on the Operative Surgery of the Eye; or, an Historical and Critical Inquiry into the Methods recommended for the cure of Cataract, for the Formation of an Artificial Pupil, &c. &c. &c. containing a new method of Operating for Cataract by extraction, which obviates all the difficulties and dangers hitherto attendant upon that operation: being the substance of that part of the author's Course of Lectures on the Principles and Practice of Surgery, which relates to the operations on that organ.* By G. I. Guthrie, Esq. Second edition, with seven Explanatory Plates. London, 1827, pp. 554.

A complete treatise on the diseases of the eye has long been desiderated. We have some excellent essays, on several of the affections of that organ, but there is no work, at least that we have met with, in which is embodied our present knowledge on the subject of ophthalmic diseases. The work of Mr. Travers is valuable for its originality, and for containing opinions derived from a very ample and extensive experience, but without noticing minor faults, it does not embrace a full view of the subject, an almost entire silence being preserved with respect to the labours of others.

The treatise of our countryman, Dr. Frick, is an excellent compilation, and is well adapted for a manual for students, but it is too brief to satisfy those who have entered beyond the threshold of the science.

The manual of Dr. Weller, of Berlin, of which we have a translation by Dr. Monteith, of Glasgow, comprises an account of almost every disease of the eye and its appendages, and possess considerable merit, but it is still briefer and more unsatisfactory in its details than the work of Dr. Frick.

The treatise of the venerable Scarpa, for an acquaintance with which we are indebted to a translation by Dr. Briggs, is certainly, as is every thing that he has written, valuable; but a few only of the diseases of the eye are noticed in it, and our knowledge of these has advanced considerably since it was written.

In France they have the treatises of Demours and Delarue. The former is chiefly remarkable for the beauty of the plates; the text possesses no particular value, a large portion of it consisting of long, tedious and uninteresting details of cases. Delarue's book is far behind the present state of the science; indeed, the author appears to know little of what has been done since the days of Maitre-Jean, St. Ives, Guerin, &c.

The work, the title of which stands at the head of this article, contains an account of those diseases only of the eye, which require surgical operations, but in relation to these, it contains a mass of valuable information,* and copious reference to authorities, the collection of which must have cost much labour and research.

The author announces that he intends shortly to publish a second work, to

* The author informs us, that his book contains more information on the subjects about which it treats, than any other work extant; an assertion which we believe to be true, but we confess we should have been better pleased, had we been allowed to make the discovery ourselves.

comprise the substance of that portion of his lectures, which relates to the diseases of the eye with their medical treatment. If this proposed work, equal in value his former one, of which indeed it may be considered a continuation, it will fill an important hiatus in medical literature.

As the first edition of Mr. Guthrie's book has been for some time before the public, we shall not enter into any formal notice of it, but merely extract the account of a new method of operating for cataract, which is one of the many additions made to the present edition; at the same time strongly recommending the work to those who take an interest in ophthalmic diseases.

That the reader may understand Mr. Guthrie's new operation, it is necessary to premise, that in order to avoid some of the difficulties attendant on the division of the cornea, Dr. Jäger, of Vienna, son-in-law to Professor Beer, some time since invented a double knife, one blade of which is smaller than the other, and attached to it by a button screw, yet capable of sliding on it, upon pressure by the thumb. This knife he introduced in the same manner as Beer's, and carried it across the eye till it reaches the opposite side of the cornea, the smaller blade is then pushed forward so as to penetrate the cornea, while the larger keeps the eye steady. The operation is then completed in the usual manner.

This instrument has led Mr. Guthrie to construct another, which he considers more perfect, and "to be capable, not only of preventing nearly all the difficulties and dangers which occur in the extraction of the cataract, but of obviating them when they have occurred, either from accident or from any defect in the operator. It is a double instrument, one part being a cataract knife, of the shape of Wenzel's, the other a silver blade of the same form, but larger and blunt. The sharp steel knife is attached to the silver blade by a button screw in the handle, which admits of the knife being pressed forward in the same manner as Jäger's; whilst it is so nicely and closely fitted to the silver blade as to form one instrument, neither the point nor the edge catching when the finger is pressed along it. An opening is to be first made in the cornea, with a common large Wenzel's knife, (which I prefer to Beer's,) and of such a size as to admit the double instrument, being the first step of the punctuation: the knife being withdrawn, the aqueous humour escapes, and the iris is pressed forwards against the cornea, the eyelid being allowed to fall over it. If any protrusion of the iris should take place at the opening in the cornea, the protruded part will return to its place on gently rubbing the eyelid with a silk handkerchief, a piece of sponge, or the finger. The eyelid is now to be raised, and the double instrument introduced at the opening, the silver blade being next the iris. The silver point being larger than the steel one, easily raises the cornea and presses back the iris, so that by alternately raising and depressing the point of the instrument, it is readily carried across the eye in front of the iris and pupil, until the silver point touches the inside of the cornea, either immediately opposite the point of entrance, or as much above or below as the operator may think fit. The thumb which has hitherto been resting on or near the button screw, is now made to press it forward, and to protrude in consequence the sharp steel blade through the cornea, when the instrument readily cuts its way out, and completes the section of the cornea.

The principle on which this instrument is used, is diametrically opposed to

all others. The great object of Wenzel, Beer, Jäger, and all operators, is to prevent the evacuation of the aqueous humour, until the knife has passed across the eye through the cornea at the opposite side, and has begun to cut its way downwards. The great object of this method is to evacuate the aqueous humour as a preliminary step to the operation, and to bring the eye to that state which renders the operation recommended by those surgeons impracticable. The great difficulty they have to encounter, is the falling forward of the edge of the iris, at the moment the aqueous humour is evacuated, and the necessity which then arises for bringing the knife out before the incision is completed, or of wounding the iris. It is true, rubbing the cornea, as directed by Wenzel, will sometimes cause the iris to move from before the edge of the knife, but this is only when the punctuation has been well made; for it will not always do it, and the knife must then be withdrawn, and the incision completed with the scissors or blunt-pointed knife, the edge of which often injures the iris, and always cuts with difficulty; so that three or four cuts will be required, leaving the general edge of the cornea uneven and indisposed to adhesion. In my operation, the double instrument not being introduced until the eye is quiet after the first attempt made upon it, the iris has little disposition to fall forward, as it is termed, or turn the edge of the knife, because this movement of the iris is caused by the evacuation of the aqueous humour; and when it is disposed to do so from other causes, it is prevented by the blunt or silver blade, which keeps it back in its place. The unsteadiness of the patient's eye only delays, but does not otherwise interfere with the success of the operation, neither does the toughness of the cornea, both of which are often serious impediments in the usual method of extraction, as preventing the perfecting of the incision by the single introduction of the knife, and rendering the introduction of the round-pointed knife necessary to enlarge the opening to a sufficient size for the passage of the lens through it. In the common method of operating it is dangerous to complete the operation by one incision, on account of the spasmodic action of the muscles, which often expels the lens and vitreous humour with great violence. By my method this sudden spasmodic action has had time to subside, with the evacuation of the aqueous humour, by the formation of the first opening and the subsequent falling of the lid, and the operation may therefore be completed at once with little or none of this danger. Upon the whole, I consider that this instrument, simplifies the operation in a remarkable manner, and renders one of the most difficult operations in surgery, one of very easy performance."

Fig. 1.

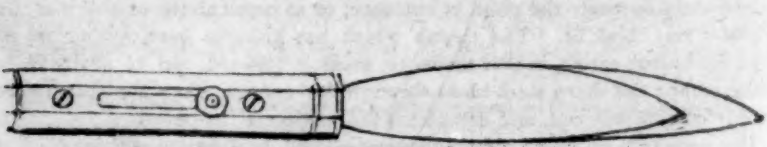

Fig. 2.

The preceding figures represent Mr. Guthrie's double knife, one blade silver, the other steel; only a portion of the handle however is represented, its whole length is three inches.

Fig. 1. shows the steel knife guarded by the silver blade, the latter projecting beyond the former.

Fig. 2. shows the knife with the silver blade uppermost, the former projected beyond the latter.

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2. *Neue Zuverlässige Heil-art der Lustseuche in allen ihren Formen; bekannt gemacht,* von KARL HEINRICH DZONDI, Professor an der Universität zu Halle, mit zwei Tafeln in Steindruck. Halle, 1826, 8vo. pp. 120.

Judging by his enthusiasm, Professor Dzondi is fully persuaded of the importance of his "new and infallible cure for syphilis in all its forms," and were we not in possession of numerous and positive proofs that his views are in many respects inaccurate, we might be persuaded that his deductions were based upon sufficiently extensive and accurate observation, instead of being rather the fancy-nursed offspring of prejudice, such is the warmth of his zeal, and so positive the declaration of his conclusions. Were we sceptically inclined, we might even question the fact of his mode of cure being "new," and though willing to believe that in his experience it has proved "infallible," we think there are other views of the character of the disease quite as novel and fully as infallible, which tend to render his theory and practice equally unnecessary. We will here subjoin a sketch of his statements, previous to any further remark.

"In publishing this brief though true and exact statement of my method of curing syphilis radically, I herewith solemnly declare, that according to my best convictions, there has been no case of syphilis however protracted, which has not been radically cured by this method; or, whenever by an exact and scrupulous attention to my mode of treatment, the disease has been cured, and subsequently reappeared in any form, the reappearance has been owing to a renewed application of venereal virus. The chief foundation upon which this mode of treatment rests, and what renders it new, and unadvanced heretofore, is that the cure of syphilis is not to be effected by quantities of mercury taken at different times, but by a sufficiently large administration of it at once.* I have purposely allowed ten years to elapse before the publication of my views, until from actual results and the certain convictions thence received, I can declare that syphilis cured by this method never breaks out again."

It is altogether indubitable, that if syphilis be once *cured* by any method, it will not break out again except from the reapplication of venereal virus. The question as to the importance of any *specific* method is of more importance, and the experience of European and American surgeons equally shows that the treatment of syphilis according to general principles, is as successful and certain, as could be desired from any specific course; in proof of this, the recorded experience of Thomson and others in Europe, and of Harris, &c. in this country may be referred to.

We pass over the first chapter which contains the description of the differ-

* Dass eine hinreichende grosse Gabe auf einmal gegeben werde.

ent forms of the disease, and sketch from the second, the author's introduction to the details of his treatment, and a fuller exposition of his views as to the operation of the medicine.

"All the forms of syphilis described in the foregoing chapter, may be radically cured according to the present treatment; all, I say, even to the oldest and most inveterate. By this method—*I speak from experience*—it is of no consequence how long a time the patient has been syphilitic! days, weeks, months, years—it is all the same! a pox which has raged in the system for twenty years, can be cured, even in the lapse of four weeks—and with the same quantity of medicine, radically cured, as one of but twenty days standing. Yes, such cases demand as long a treatment and as great a quantity of medicine, as one of twenty years continuance! a great, important and entirely new truth! a truth which I have been convinced of during ten years past.*

"During my travels in 1821–22, through France, Holland, England, Scotland, Ireland, and a great part of Germany, with a view of observing the different modes of treating syphilis, I found the principal part of the treatment the same. They introduced by internal or external means, different proportions of mercury, during a considerable period, into the systems of their patients, until the outward signs of the disease had disappeared; patients were then thought to be cured, and very little trouble was taken as to what might ensue from the activity of the medicine driven into the system. If the disease was obstinate, the treatment was as obstinately continued, for many months in the same or in larger doses. If this were insufficient, another preparation was selected, and the patient would be treated and maltreated with mercury for years.

"In most of the hospitals it was not remarked, that by means of a moderately high temperature the poison of mercury, a far worse poison than even that of the venereal contagion, would be re-introduced from the exhalations of the skin. In Paris I found in the venereal hospital that the window was left open all day in very cool weather, and in fact, by aid of a pulley it was constantly kept so; the poor patients were covered with only light woollen clothes, and could scarcely keep off the cold, much less procure gentle perspiration. None but the experienced observer can foresee the consequences of this condition!

"In England, under similar circumstances, calomel is administered in such large and powerful doses that a fearful salivation ensues, which sometimes terminates in inflammation and total adhesion of the mucous membrane of the mouth, so that the unfortunate patients, cannot throughout their lives, separate their teeth a straw's breadth from each other. I saw two instances of this kind in the Middlesex hospital under Charles Bell!

"Among all the methods, it is certain that the mode of inunction, (Louv-

* That we may not be suspected of mistifying the Professor, we subjoin the original of the two last sentences—"Es kommt bei dieser Methode—*ich spreche aus Erfahrung*—ganz und gar nicht auf die Zeit an, wie lange ein mensch syphilitisch gewesen ist. Tage—Wochen—Monate—Jahre, dies ist ganz gleich!—eine Syphilis welche zwanzig, sage zwanzig Jahre im Kœrper Wuthete, kann in eben der Zeit —vier Wochen—und mit einem der Quantitat Arzney geheilt, grundlich geheilt werden als die welche erst Seit zwanzige—Jahrige! Eine grosse wichtige, ganze neue Wahrheit! Eine Warheit welche sich mir nun seit zehn Jahren bewarht hat." p. 29.

rier's) is the most terrible, and is still not powerful enough to cure radically long-continued forms of the disease. I have cured twenty-one cases in which inunction had been unsuccessfully employed.

"The most unpleasant of all methods is beyond doubt that of purging with large doses of calomel, by which treatment not one syphilitic patient is cured." p. 31.

We shall leave our author to arrange the latter statement with our countryman who claims to be the originator of this mode of treating syphilis, at least in the United States, and go on to other observations. We do not deem it necessary to delay for the purpose of examining his propositions concerning the poisonous qualities of mercury, or of the manner in which its influence displaces the venereal virus. It might under other circumstances be worth while to consider his declaration, that no syphilis can be cured without mercury, were it not that every one almost can satisfy himself of the contrary by making inquiries among our practitioners, or by referring to the published experience of most respectable surgeons.

Professor Dzondi believes that corrosive sublimate is the medicine, which under proper direction is best adapted to the cure of all the forms of syphilis, and in fact it constitutes his "infallible cure." He commonly gives the sublimate in form of pills, made up with crumb of unfermented wheat bread and sugar, as follows:—℞. Hydrar. Sub. Corros. gr. xij. Solve in aq. dist. q. s. adde Micæ panis albi et Sacchari albi, āā q. s. ut ft. pill. ccxi.—The pills are to be taken every other day; beginning with four, which are to be taken once a day, after dinner; not a quarter or half an hour after, but immediately afterwards, swallowing some water or beer to wash them down. The number of pills is to be increased at each time of taking, by adding two, so that by rising from 4 to 6, 8, 10, the patient at the last days of the treatment takes 30, or a grain and a half of sublimate at a dose. The pills can be made larger when the number is so much increased as to render the dose troublesome. Laudanum is to be used if rendered necessary by pain in the belly, &c. The whole cure lasts twenty-seven days,* and must throughout and without exception, and under all circumstances be completed, if one desires to accomplish a radical cure. Even when all symptoms of disease have disappeared during the first half of the cure.

We cannot for want of room follow the progress of the "infallible cure," nor add the Professor's judicious advice as to warm clothing, diet, &c. There are many very good and useful observations on the secondary forms of syphilis, but nothing very new or uncommon. We must therefore refer our readers for further particulars to the work itself, which is by no means long or tedious. An ill-natured critic might find room to indulge himself in considerable ridicule; an impertinent or envious one, might improve the opportunity of endeavouring to lift himself into notice, by reviling an individual, who has character and respectability; but every candid inquirer would make allowances for the enthusiasm which caused the author to be fond of his own doctrines and practice, and give him the credit he undoubtedly deserves, of being honestly desirous of contributing to the utmost of his ability to the advancement of his profession, and the good of his fellow creatures. J. D. G.

* "Die ganze kur dauert 3 mal 9 Tage."

3. *Manual of Pathology, containing the Symptoms, Diagnosis and Morbid Characters of Diseases: together with an Exposition of the different methods of Examination applicable to Affections of the Head, Chest and Abdomen.* By L. MARTINET, D. M. P. Resident Physician of the Hotel Dieu. Translated, with notes and additions by Jones Quain, A. B. Demonstrator of Anatomy at the Medical School, Aldersgate-street. London, 1826, pp. 310.

This work is intended as a clinical guide. It contains first, a brief statement of the necessary requisites for the proper conduct of clinical pursuits; and a detailed account of the improvements which, of late years, have been introduced in the methods of investigating diseases: second, a condensed but complete account of every thing necessary to enable the observer to distinguish diseases from each other, and, to draw up with precision, the history of them. To this is added an enumeration of the symptoms of the different affections, and the morbid alterations which they induce. M. Martinet in his work has freely availed himself of the labours of Laennec, Andral, Lallemand, Serres, Louis, Broussais, Rostan, Chomel, Double, Landré, Beauvais, and Professor Recamier, and the office which he has for some time filled at the Hotel Dieu, has enabled him to verify repeatedly, by actual observations, the correctness of the statements he has made.

We strongly recommend M. Martinet's manual to the profession, and especially to students; if the latter wish to study diseases to advantage, they should always have it at hand, both when at the bed-side of the patient, and when making post mortem examinations. We hope that one of our enterprising Booksellers will reprint Mr. Quain's translation; it appears to be faithfully executed, and contains some interesting additions.

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4. *Chirurgische Kupfertafeln, eine auserlesene Sammlung der noethigsten Abbildungen von äusserlich sichtbaren Krankheitsformen: u. s. f. Zum gebrauch für praktische Chirurgen.* Von L. F. V. FRORIEP, M. D. &c. 4to. Weimar.

This work consists of a selection of the most valuable surgical engravings, illustrative of important operations, and of the instruments, bandages, and other apparatus employed by the most distinguished practitioners throughout the world. A brief descriptive text accompanies the plates, explanatory of the various operations, or indicating the diagnostic signs of the diseases exhibited in the engravings. These figures are copied from a great variety of works, or from detached papers published in the periodical journals, thus supplying the possessor of the work with a mass of surgical information which he might elsewhere seek in vain in any one book. Thirty-seven numbers of this work are now before us, comprising more than a hundred representations of surgical diseases, operations or apparatus, displaying in a very satisfactory manner the most approved resources of our art. The engravings, though by no means elaborately wrought, are expressive and accurate; a number of them are done with considerable elegance, especially some which are coloured. In addition to the extensive collection from standard works, there are some highly interesting original engravings; among others the portrait of a youth labouring under the morbus cœruleus, and a representation of two stages of ophthalmo-

blenorrhea which are very interesting. The contributions of German surgeons to the improvement of the art are shown by this work to be very numerous, and many of them of much importance, but no undue preference for the surgical practice of any country is exhibited. Dr. Froriep draws liberally from all accessible sources, and has done full justice to every individual who has contributed to the advancement of surgical science, however obscure such individual may otherwise have been. We should consider such a work as that of Froriep, with an English text, as a gift of great value to American surgeons. J. D. G.

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5. *Lehrbuch der gerichtlichen Medicin. Zum Behuf akademischer Vorlesungen; und zum Gebrauch für gerichtliche Aerzte und Rechtsgelehrte entworfen.* Von ADOLPH HENKE, M. D. &c. Berlin, 8vo. pp. 471. 1827.

These Elements of Medical Jurisprudence have been exceedingly popular in Germany, and have passed through five editions since the year 1812. The manner in which the subject is treated, is well suited to make this book a favourite, as it is at once clear, concise, and exact; the author discussing the various important topics belonging to this department of medicine, with the energy which is inspired by a vast fund of experimental knowledge, enlivened by all the light derivable from the accumulated efforts of others. There are ample references throughout to the most approved authors who have investigated or treated of the different questions examined, as well as numerous references to separate tracts or essays on such subjects scattered through periodical papers or contained in the transactions of learned bodies. The evidences which are thus supplied of the zeal of the German physicians in pursuit of knowledge is both surprising and satisfactory; the medical literature of other countries appears limited indeed, when compared with the exuberant productiveness of the industrious professors and students of the German schools. Did not other more urgent avocations interfere, we should be tempted to translate this volume of elements of forensic medicine, which is so well adapted to the purpose of enabling the reader, with a small degree of application to obtain a highly advantageous view of the principles of this important science. J. D. G.

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6. *Clinique de la Maladie Syphilitique.* Par M. N. DEVERGIE, D. M. P. et G. Chirurgien major Démonstrateur a l'Hospital Militaire d'Instruction du Val-de-Grace, Professor d'Anatomie et d'Chirurgie, &c. Enrichie d'Observations Communiquées par Messieurs CULLERIER, oncle, CULLERIER, nevue, BARD, GAMA, DESRUELLES, &c. &c. avec Atlas Colorié. Paris, 4to.

This work is now publishing in Paris, in numbers, each containing five plates and about sixteen pages of letter press. We have received the first seven numbers; these contain the preface and introduction to the work, and representations of the healthy male and female organs, and various forms of syphilitic disease.

The introduction contains observations, 1st, on the origin of syphilis; 2d, on the different theories entertained with regard to its nature; 3d, on the modes of treatment successively adopted for its cure.

M. Devergie is of opinion; "1st, that the disease did not originate in America;

2d, that it did not arise exclusively in Europe at the end of the fifteenth century; 3d, but that it was known in different climates before there was an easy communication between their inhabitants; 4th, that it has existed at all times, and ought to be considered as the result of the abuses of love, of debauchery, and libertinism, rather than as the offspring of a particular virus." He then enters into an investigation of the different opinions entertained by authors respecting the nature of syphilis, and adduces strong, and we think satisfactory proofs, that it is not produced by any one specific contagion, but that it may originate spontaneously—may be produced by masturbation—over-excitement of the genital organs, especially in women, from too frequent a repetition of the act of coition, &c. &c.

M. D. has passed twenty years in military hospitals, and was attached during ten years to the same division of cuirassiers; he has thus had ample opportunities for collecting facts relating to syphilis, and to form an estimate of the value of the different modes of treatment.

He has seen the disease repeatedly cured spontaneously, without any subsequent constitutional effects occurring, and he considers many of the supposed secondary forms of the disease as produced by the remedies given for its cure. He recommends the physiological treatment, viz. local antiphlogistic treatment, and above all, leeches, &c.; see propositions 405-415 of the eminent French reformer.

The plates which accompany these numbers, present as beautiful and accurate representations as we have ever seen, of several of the forms of venereal disease.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *On the Vascular Appearance of the Human Stomach, which is frequently mistaken for Inflammation of that Organ.* By JOHN YELLOWLY, M. D.—In our original department we have given the result of some inquiries relative to the mucous membrane of the stomach. A notice of a paper on the same subject, published in the fourth volume of the Medico-chirurgical Transactions, by Dr. Yellowly, will probably not be uninteresting here. This paper is a sound and plausible one in most respects, and exhibits such good talents for observation, that in this country, at least, it has on all discussions respecting the pathology of the stomach, been brought forward as proving the non-existence of inflammation in certain diseases. The reflections at the conclusion of his paper are evidently those of a mind not far from the truth, but which had been kept undetermined and in equipoise, perhaps, by the comparative novelty of the subject, at the period when he made his observations.

Notwithstanding the general merit of his paper, the tabular view of twenty dissections is very unsatisfactory in not giving, with but few exceptions, the duration of the diseases under which the patients perished, the medicines which they took just before death, nor the quantity of contents in the stomach, all of which influence somewhat its appearance. Neither has he stated, with sufficient accuracy, the number of hours which intervened between the death and the examination of the individuals. I mention these as objections to the plan of the paper, and if we also inquire particularly into each dissection, it will be observed that there is scarcely a case which would be set down to gastric inflammation, according to the rules we have inculcated. It is true that there is redness and vascularity in all the stomachs, but none of them presented the red, blotched, and motley appearance of genuine acute inflammation of the mucous membrane; on the contrary, the blood seems to have been arrested in the capillary vessels instead of being extravasated. The only cases where extravasation is spoken of are exactly those where we would expect to find it, to wit: No. 1, apoplexy, No. 2—3, traumatic irritation, and No. 19, protracted fever with irritability of stomach.

Mr. Yellowly next gives the dissection of five criminals who were executed by hanging; as the fact is generally conceded, and has been pointed out by Bichat and others, that this mode of death produces a great accumulation of blood in the capillaries throughout the whole system, we find in Mr. Yellowly's cases a correspondence with our previous knowledge on the subject. Cases 1st and 3d, seem to have presented the red blotches so remarkable in yellow fever, and others of high gastric irritation. English criminals, we understand, are much in the habit of copious potations of alcoholic drinks just before they are executed, it would have been more satisfactory if Mr. Y. had inquired on this subject, and reported accordingly. Mucous membranes, however, when

congested by any cause, either mechanical or otherwise, bleed so readily, that strangulation alone might have produced the appearance. Case 2d was examined at so remote a time from death, to wit: seventy-two hours, and presented the stomach so completely dyed by infiltration, that no rigid deduction can be drawn from it, either one way or the other. Cases 4th and 5th do not present peculiarities leading to any very distinct conclusion.

Fig. 1, and fig. 4, of Mr. Yellowly's plate, I should unhesitatingly set down to acute inflammation, were similar appearances met with in a dissection. Fig. 2, and fig. 3, are equivocal, they may or may not belong to inflammation, they resemble, however, very much the stomachs of old drunkards.

Mr. Yellowly does not seem to be apprized of the fact that the extreme redness of acute inflammation of the stomach does not last for much more than six or eight days, and that it afterwards disappears to a very great degree, indeed sometimes almost entirely, leaving only a dark yellowish, motley tinge, with softening, or even a total removal of the mucous coat.

Mr. Yellowly expresses his conviction that the thinness of the stomach at its greater end, so frequently met with, is not a diseased state, but a natural one, he therefore rejects the testimony of Mr. Hunter, and others, on this subject, and is disposed to refer it to mistake. But though the left extremity of the stomach is not so thick as the right, yet the following simple experiment will enable any one to detect a removal of the mucous coat. Let the suspected part be floated for a few minutes in water, in which case the edge of the erosion will become as distinct as the edge of an ulcer on the skin, under common circumstances. Again, in those cases of erosion, so far from the blood-vessels not being injured, they are so much so that a wax injection may be freely pushed through them into the cavity of the stomach, an example of this is now preserved in the anatomical cabinet of the University.

Mr. Yellowly, in detailing the experiment on the dog, (p. 416,) poisoned by corrosive sublimate, says that there were dark coloured "patches" of coagulated blood in the villous coat of its stomach, "very similar to that which is sometimes found in an inflamed serous membrane, on which coagulating lymph had been very recently deposited."* He has here made a very accurate and judicious observation, which, if it had been applied as a test to his other dissections, would have dispelled most of his doubts and errors. For the patches of red blood in an acutely inflamed stomach, bear the strongest resemblance to the patches of red blood found in the substance of the factitious membrane of a recently inflamed pleura, and seem to disappear by the same process, absorption.

W. E. H.

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2. Tiedemann *on the Membrana Pupillaris.*—"Dr. Jacob has proved that this membrane does not disappear towards the seventh month of fœtal life, but that in most cases it exists at birth. Towards the seventh month it loses its blood-vessels, becomes perfectly transparent, and gradually diminishes till it is entirely absorbed a short time after birth. From eight to fifteen days from birth slight traces of this membrane may be discovered. Dr. Jacob once succeeded in injecting the membrana pupillaris in a fœtus nearly at its full time. M. Tiedemann has repeated the experiments of Dr. Jacob, and confirmed their accuracy. He has injected the membrane in a fœtus which died during labour; it exhibited an extremely delicate network of vessels, well filled with injection, as also were the vessels of the iris. The injection was composed of isinglass and cinnabar."—*Bulletin des Sciences Méd., April, from Zeitschrift für Physiologie.*

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3. *Account of a Remarkable Production resembling a Tail.* By Arthur Jacobs, M. D.—This very curious production was observed in a young man, it had ex-

* Mr. Y. has made a little mistake about the position of these patches, they are not in the inflamed natural pleura, but in the factitious membrane of coagulating lymph. Just opposite to them are found in the pleura, the red points of the vessels through which the extravasation occurred, they look like those on the dura mater, when the skull-cap is first torn up.

isted from birth, was about the size of the closed hand of a large man, and was situated upon the lower part of the sacrum. Upon its most convex part was an orifice, through which the finger could be introduced and passed round an irregular resisting body, which partly projected through this opening. This extraordinary production adhered firmly by one extremity to the spine, the connexion was osseous, but so spongy as readily to yield to the knife. It was extirpated by Mr. Jacobs, Senr. and on examination it was found to be furnished throughout with a bony core, or centre, consisting of separate pieces, distinctly joined to each other with perfect synovial capsules. Mr. Jacobs adds, that he "has been assured by a person of veracity, who states the fact from actual observation, that he knows an individual who has a production, or continuation of the os coccygis, which can be felt through the clothes, and causes inconvenience when the person sits; and that it is generally believed that several members of the same family have a similar appendage."—*Dublin Hospital Reports, Vol. IV.*

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4. *Anatomical and Physiological considerations on the connexion of the Placenta with the Uterus, on the Vascular Communications between the two Organs, and the Mode of Circulation of the Fluids.*—M. Lauth, Jr. thinks that although anatomists and physiologists have paid much attention to the mode of union of the uterus and placenta, and the reciprocal exchange of blood between the mother and fœtus, they have not given us clear views of the structure of these parts, nor of the manner in which they perform their peculiar functions. The author's experiments lead him to deny, that the uterine placenta really exists under the form which has been assigned to it. He has been able to inject by means of very fine tubes two different orders of vessels, visible in the membrana decidua. The one runs from this membrane to the placental vessels, and the other from the placenta to the vessels of the membrana decidua, all which appertain to those of the placenta. These vessels are the lymphatics, of which the former separate from the blood of the mother, the materials necessary for the fœtus, and the second draw from the blood of the fœtus the matters which ought to be separated from it. Finally, according to the author, the placenta appears to perform in the fœtus, the functions which are subsequently performed by the intestinal canal, rather than those of the lungs, which is attributed to it at present. M. Breschet, in a note at the end of this memoir, informs us, that recent microscopic observations, go to show that the globules of blood of the mother do not resemble the globules of blood of the fœtus.—*Journal des Progrès, from the Rép. Gén. d'anatomie et de physiologie pathologiques.*

PHYSIOLOGY.

5. *Anomaly.*—M. Levrat, Senr. reported to the Medical Society of Lyons, the case of a woman, who, after having given birth three times to twins, a male and a female each time, was delivered at the fourth and a half month of pregnancy, of a male child, and milk was secreted in the right breast only; four months afterwards she was delivered of a perfect female infant, and at this period milk was secreted in the left breast alone.—*Annales de la Méd. Phys. April,* 1827, *from the Compte rendu des trav. de la Soc. de Méd. de Lyons. Par J. M. Pichard, D. M.*

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6. *Periodical Dumbness.*—"M. Itard informs the Royal Academy of Medicine, that he had seen a female who is dumb at each menstrual period; this he attributes, justly, to a cerebral congestion taking place at these epochs."—*Annales de la Méd. Phys. Feb.* 1827.

7. *Circulation of the Blood.*—The experiments of Dr. BARRY, on the motion of the blood in the veins, has excited much attention, and the conclusions he has drawn from them have met, especially in England, with considerable opposition. Dr. Arnott, in his late treatise on the elements of physics, notices in a manner not very remarkable for its sound philosophy, the theory some years since advanced by Dr. Carson, that the return of the blood to the heart was effected by atmospheric pressure, and also the experiments of Dr. Barry, and asserts, "1st, That the veins being tubes, free to collapse, no pump can lift liquid through them. 2d, That the suction powers of the chest, in ordinary respiration, is too weak to lift liquid a distance of even one inch, through tubes of any kind." Dr. Carson, in a very ingenious paper in the *London Medical and Physical Journal*, for August last, refutes these assertions. He does not, however, deny that the force of the heart and arteries may be sufficient to move the blood, in certain circumstances, through its whole course, but he maintains that this is not the force employed for that purpose. The well known fact which he adduces, viz. that when a vein is opened in the arm or leg, without the veins above the opening being compressed by ligatures, little or no blood flows, is conclusive, at least, to our minds, on this point; for the blood certainly, on the supposition of its being propelled by a force *a tergo*, would find its way rather out of the opening, than proceed in the vein, carrying before it a column of blood, one or two feet in height.

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8. *Case of Extraordinary Constipation.*—It is surprising what wide deviations from a healthy state of the functions, nature will accommodate herself to, and that while some fall victims to injuries so slight as scarcely to be cognizable, in others, life is sustained under the infliction of the most extensive derangements. Dr. CRAMPTON relates, in the *Dublin Hospital Reports*, vol. iv. the case of a young lady who was attacked in February, 1825, with a severe diarrhœa, which ceased after a few days, and was succeeded by a costive state. After some time the abdomen became tender and inflated, "she seldom had a stool more than about once a week; all medicines were rejected from the stomach; the greater part of her sustenance, which was all liquid, shared the same fate; what she brought up was offensive in the extreme, and often evidently stercoraceous; in some instances it had a urinous taste and smell, little urine being either secreted into or passed from the bladder. Notwithstanding the uncomfortable condition in which she existed, after a little time it became evident that she bore her distress and pains with more facility. The symptomatic feverish state subsided, the pulse became natural; she took liquid food in sufficient quantity, there was less emaciation, the vomiting was less severe, but she threw up every day, and the intervals between the times of emptying the bowels became longer, the urine was seldom passed, and then with pain, and in very small quantity; the catamenia were still regular. She even appeared to have regained a little flesh, and slept well. Her usual sustenance was tea, toast, milk and gruel, but no solid food; no swelling now, or fulness in the abdominal region; she has either lost the use of her lower extremities, or is averse to use them. She is now in her 37th year, and has been in the state described for the last seven years. For the last eight months she has had no passage from her bowels, and only two or three during the preceding year, and she scarcely passes any urine."

Dr. Crampton recollects a case in Steevens's Hospital, in which "both the bowel and urinary discharges were nearly suppressed. When she had a stool it was considered quite an extraordinary occurrence, and she never passed urine except when relieved by the catheter. She vomited occasionally excremental matter, and for a considerable time, when no urine appeared to be secreted, she threw up a fluid of a urinous taste and smell. She lived for several years."

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9. *Pulsation in the Veins.*—A very interesting case of this is recorded by Dr. DAVIES in the fourth volume of the *Dublin Hospital Reports*. It occurred in a girl aged six years, labouring under acute hydrocephalus, which terminated

fatally. There "was a pulsation in all the veins, distinct and well marked, synchronous with that of the arteries, and in the veins of the extremities, perceptible to the eye, even at the distance of two yards. The veins were larger than is usual at her period of life, and pressure upon any of them stopped the pulsation between the part compressed and the heart, so that it obviously could not be caused by regurgitation from the auricle. The pulsation in the part of the vein, towards the extremity, was rendered much stronger, and more distinct, provided the return of the blood to the auricle was not completely obstructed, but if the compression was so strong as entirely to obliterate the calibre of the vein, that part of it which became tense and distended with blood so far as the next valve, after a few seconds, lost the pulsation altogether. The pulsation of the heart was somewhat stronger than usual at her age; the pulsation of the veins was softer than that of the arteries, and was completely stopped on compression of these latter vessels." The arteries were injected after death, "but presented no preternatural communication whatever with the veins, neither could any artery be discovered in the immediate vicinity of these latter vessels which could throw a doubt on the fact, that the pulsation had been continued from the heart, through the arteries and capillaries to the veins."

PATHOLOGY.

10. *Case of gangrene of the lung; dilation of the bronchial tubes; cavity in the right lung; bronchitis.* By Drs. Graves and Stokes.—This is an extremely interesting and rare case. Laennec, Andral, and Bayle, all unite in setting down the uncircumscribed gangrene as one of the rarest of pathological phænomena. Laennec states that he met with it but twice in the course of twenty-four years observation, and that but six cases occurred in the hospitals of Paris during that period.

Case.—L. B. ætat. twenty-eight, full habit—thorax well developed—had been subject for the last year to palpitations, cough, and pain in the sides. *November* 1st, rigor, with increased pains. *November* 2d, cough frequent—expectoration of a dark red colour—pulse 144—lays on his right side—breath very fœtid—cadaverous smell from the whole body—countenance of a leaden hue—lips livid. On percussion the right side was dull anteriorly, on applying the stethoscope from about two inches above the mamma to the inferior portion of the lung, we heard a sound similar to that produced by the retraction of a piston; on expiration an obscure crepitus was audible. About the mamma, cavernous respiration, gurgling and pectoriloquism. Over the left lung respiration puerile, with slight crepitus about the mamma.

Diagnosis. Suppurative inflammation of the lower lobe of the right lung; a cavity anteriorly in the lower part of the middle lobe; slight inflammation of the lower part of the left lung.

Ordered, venesection ten ounces; cupping glasses to the right side, and afterwards a large blister; small doses of calomel and hyosciamus, and an abundant supply of warm diluents. Evening—much relieved, pulse 96, cadaverous smell disappeared, no expectoration—the peculiar respiration in the superior right lung not audible—skin dry—calomel and hyosciamus omitted—small doses of antimonial, with a little calomel to be taken every second hour.

November 3d.—Lying on his left side, which he has not, he says, been able to do for the last six months. Expectoration about two ounces, purulent, sanious, and presenting the prune juice colour in some degree.

November 6th.—A loud muco-crepitating rale over the whole left lung—cavernous respiration evident over a more considerable portion of the right lung, with confused pectoriloquism; posteriorly the murmur was natural—crepitus in the antero-superior portion.

Diagnosis. General bronchitis of the left lung; excavation in the right lung increasing.

Evening.—Violent pain in the left side—pulse 110, small—distinct crepitus mixed with sonorous rale over the postero-inferior part of the left side.

Diagnosis—pleuro-pneumony of inferior part of left lung—no effusion into the cavity.

Was leeched freely and took a large dose of Dover's powder.

November 7th.—Lying on the right side—had passed a good night—pain greatly diminished—expectorates some blood. Crepitus less audible, of a more humid character—sound on percussion over left mamma, natural—cavernous respiration less distinct.

November 8th.—Last night expectorated a large quantity of blood suddenly—breath more offensive—gurgling evident over a space nearly four inches about the right mamma. Opium and sulphate of quinine were ordered, a small quantity of wine allowed, and a seton inserted over the cavity.

November 9th.—Better; expectoration resembling the juice of prunes mixed with grumous blood. In the evening had a severe rigor, and another on the 10th, and on the 11th died.

Dissection.—"Body fat and muscular; some œdema of the right leg.

"On raising the sternum the left lung collapsed, and on a superficial view appeared healthy, and free from adhesions. The right lung felt solid, and completely filled the right cavity of the thorax; the adhesions to the pleura were so strong, that in detaching the lung the pleura costalis was torn away. A perpendicular incision being made on the antero lateral face, the superior portion was found inflamed to the first degree for about an inch downwards, when it passed into the second in spots, between which the substance of the lung was soft, and of a reddish yellow colour, but still crepitating, giving to the lung the appearance of a piece of Egyptian sienite. On the antero interior line, about three inches from the summit, the lung felt solid, and the surface of the incision was of a dark grey colour, and motley appearance. An anfractuous cavity was then discovered, having three prolongations or horns, one extending upwards, another downwards and backwards, and a third to the right side. A yellowish semifluid matter flowed slowly from the lateral prolongation; but the other parts of the cavity were filled with a substance resembling putrid flax, and exhaling an exceedingly fœtid odour. Several dilated bronchial tubes opened into it from behind; its parietes were firm, but irregular, and lined with a cartilaginous membrane, which extended to the neighbouring bronchial tubes. Bands of condensed pulmonary tissue were observed in several places forming elevations on the parietes. Below this cavity we found a solid mass, about the size of two walnuts, in which a small cavity was found, not communicating with the bronchial tubes. It had no lining membrane, and the substance of the lung around was in the state of grey induration. Most of the bronchial tubes in this lung were dilated, forming culs-de-sac at their terminations, where they were nearly as wide as at their origin. The lining mucous membrane was of a deep red colour, soft and swollen; no ulceration could be detected.

"On detaching the left lung from the diaphragm, the fingers of the operator entering the substance, and a large cavity, capable of containing a moderately sized apple, was found, of a completely gangrenous appearance; from its sides a blackish sanies flowed in great abundance. The edges of the cavity were ragged, and in a state of deliquescent sphacelus; no bronchial communication could be found, but the affected part was surrounded by a band of hepatization, beyond which the tissue was healthy and crepitating.

"The mucous membrane of the bronchial tubes was almost black; this appearance extended to the trachea, and gradually fading, terminated at the rima glottidis. Some adhesions were found, and the inferior portion of the pleura was highly vascular. The right ventricle was enlarged, soft and pale; the pericardium presented the white patches of Laennec without adhesions."
—*Dublin Hospital Reports, Vol. IV.*

11. *Swelling of the Extremities.*—But two species of these have been acknowledged by pathologists, viz. phlegmasia dolens and elephantiasis or bucnemia tropica of Dr. Good. Dr. Graves has observed two sorts of tumefactions which are pathologically different from either of the above; the symptoms and characters of which are laid down. Of the first species two cases have been published, one by Mr. Chevalier in the 2d vol. of the Medico-Chirurgical Transactions, and the other by Söemmering.

The second species may occur either in the upper or lower extremities, and is by no means an uncommon disease in Ireland. A case of this affection will be found in Haller's Disputationes Chirurgicæ, vol. v. p. 463. Dr. Graves has given a coloured drawing, representing the hand of a girl in whom the disease had lasted about one year. When the case is not of long standing, Dr. G. recommends during the febrile paroxysms, an antiphlogistic treatment and purgatives; repeated application of leeches to the inflamed parts, cold lotions, lead washes, &c. During the intermissions, rest of the affected extremity, moderately tight bandages, bark, and if it fails, arsenic. Change of air should always be recommended, and the antiphlogistic plan resumed the moment the inflammatory paroxysms occur.—*Ibid.*

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12. *Pulmonary apoplexy.*—In the description given by Laennec of this disease, it is laid down that there is a well marked line of demarcation between the affected portion and the healthy pulmonary tissue. In a case described by Drs. Graves and Stokes, in the fourth volume of the *Dublin Hospital Reports*, this did not exist, "the engorged generally passing into the healthy by imperceptible transitions." The case is also remarkable on account of its extraordinary extent, the disease not being limited to one part, scarcely any portion of either lung being free from spots containing extravasated blood. In the cases described by Laennec, the disease occupied but a small portion of the lung.

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13. *Propagation of Inflammation by Contiguity.* By R. Graves, M. D. and W. Stokes, M. D.—"In the dissection of a fatal case of enteritis, we observed that the omentum, which lay extensively over the intestines, was healthy, except where it was in contact with the inflamed portions of the intestines. These portions were circumscribed and limited in extent, some highly vascular and red, others in a gangrenous state, and one actually perforated. The perforation was very small, not exceeding a line in diameter. The inflamed portions of the omentum were very vascular and red, about the size of a dollar, and *lay exactly over the inflamed portions of the intestine.* It is to this correspondence in their situation with the inflamed parts of the intestine, that we wish to direct the attention of our readers. Similar facts have been frequently observed in diseases, but, as far as we know, they have never been satisfactorily explained. Thus when a portion of the pleura pulmonalis is much inflamed, a portion of the pleura costalis corresponding, or opposite to it, is always found to be also inflamed. When, on the other hand, inflammation spreads from the intercostal muscles to the lungs, as in the conversion of pleurodyne into pnemonia, it does not traverse the pleura, in order to reach the lungs, by following the reflection of this membrane over them, but passes at once, and directly from the pleura of the ribs, to that of the lungs, between which there was previously no direct communications.* To this circumstance is owing the adhesions between serous membranes, so readily formed by inflammation, for when a part of one becomes inflamed, the portion of the other, in contact with the inflamed parts, assumes also an inflammatory action; and lymph being thrown out by both, a false membrane is finally formed, not less intimately connected with one than with the other.

"In enteritis, we have repeatedly observed that the peritoneum lining the abdominal parietes is most inflamed in those parts which had been in contact

* See Wilson Philip on Indigestion.

with the most inflamed portions of the intestines. Another very important analagous fact was observed by Dr. Wilson Philip, in his Treatise on Indigestion. In the second stage of that disease, the pylorus, frequently becomes inflamed, producing tenderness in the epigastrium, (page 105;) and as the pylorus he observes, 'lies with the thin edge of the liver upon and in contact with it, the inflammatory process is communicated to the thin edge of the liver, and thus inflammation of the liver is occasioned, and terminates in evident enlargement and tenderness of that organ.'

"We venture to propose the following explanation of these facts. When a portion of a serous membrane becomes inflamed, it is rendered highly vascular; it becomes at first dry and rough, but afterwards exhales either a morbid fluid secretion, or coagulable lymph; there is some reason to believe that its temperature is also increased. Now in this state of things, that portion of the opposite membrane which corresponds to it, is thus exposed to the contact of a membrane, whose *sensible properties* are altogether altered from their natural state, and which may therefore be now considered to be as it were a *foreign body*, which presenting a surface quite different from that which the sensibility of the opposite membrane had been accustomed, must of course act as a stimulus to it, and thereby excite in it an inflammatory action. This explanation seems at least more satisfactory than Mr. Hunter's sympathy of contiguity.—*Ibid.*

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14. *Whitish Stools.*—These were formerly attributed to the loss of chyle by stool, Dr. Baillie thought at least one variety of them depended on a copious secretion of calcareous matter from the intestines. Dr. Graves considers them as a secretion from the mucous membrane of the rectum, when in a state of irritation or sub-inflammation, and to be analogous to the white and viscid discharges from other mucous membranes, as from the conjunctiva, bronchial tubes, urethra, vagina, &c. This affection of the rectum may extend to the small intestines, as is proved by the examination of persons who have died of East India Cholera.

Case.—Dr. Graves was applied to by a gentleman who had had dysentery, the prominent symptoms of which had disappeared. His appetite was good—digestion tolerable—but he was daily becoming more emaciated and weaker. He had two natural stools daily, without tenesmus, but complained of eight or ten sudden calls to stool, during the twenty-four hours, attended with an impossibility of resisting the bearing down and weight felt in the rectum; these evacuations were preceded by no premonitory sensations, and consisted merely of two or three table-spoonsful of muco-gelatinous matter. Numerous remedies were tried without benefit, at length Dr. G. resolved to try strychnine, on the authority of Dr. Rummel. It was given in doses of one-twelfth of a grain, in the form of pill twice a day, which completed the cure in three weeks.—*Ibid.*

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15. *Black or very Dark Stools.*—These may be caused, 1st, by an effusion of blood into the intestines, causing true melania; 2dly, by black bile; 3dly, by a secretion of dark-coloured matter from the mucous surface of the alimentary canal. A very remarkable case of the latter, in which very great quantities of matter, sometimes of the consistence and colour of tar, and sometimes resembling ink, were passed by stool for ten or twelve days in succession, was cured by the use of oil of turpentine, and other stimulating tonics.—*Ibid.*

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16. *Contagious Psoriasis.*—Duffin and Bateman maintained that scaly eruptions are not contagious. Dr. Graves has recently seen a case which seems to him to prove that they may be communicated by contact under certain circumstances. A gentleman of cleanly habits was affected for many years with psoriasis palmiaria. Last year Dr. G. was called to see this gentleman's butler, who had an extensive psoriasis on the back of the hand, which he attributed to wearing his master's old gloves. Two months afterwards, the house maid was affected with the same complaint, which she attributed to contact with her

master's linen, in making his bed. These facts, though they may render probable, certainly do not prove the contagious nature of the disease.

The most extensive case of psoriasis diffusa which Dr. Graves ever saw, occurred in a boy, from sleeping on some fleeces of wool without his shirt. Dr. G. has also seen an entire family of children infected with a disease resembling itch, from playing with a mangy dog.—*Ibid.*

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17. *Rheumatism of the Temporal Muscles.*—This complaint often causes much uneasiness, being confounded with lock-jaw. Dr. Graves has seen two cases in which the inflammation and contraction of these muscles was so great that the jaws were firmly closed. There was no constitutional derangement—the tenderness and pain are greatest just above the zygoma. A cure is easily effected by the repeated application of leeches, and proper anti-rheumatic remedies.—*Ibid.*

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18. *Fracture of a Cervical Vertebra by Muscular contraction.*—M. Réveillon related to the Royal Academy of Medicine at the sitting of the 8th of February, the following curious case. "A soldier, an excellent swimmer, plunged headforemost into the Sambre. His companions seeing him struggle for some minutes, thought him in jest; but, perceiving that he became motionless, they ran to his assistance and dragged him out. On recovering his senses there was found neither fracture nor dislocation, but the limbs were paralyzed—he could not support his head—skin insensible—severe pain in the lower part of the back of the neck, without any external wound—priapism, and frequent desire to make water. The patient stated that, at the moment when he made the plunge he recollected that the water was shallow, and suddenly drew his head back to avoid dashing it against the ground, and that at this instant he lost all consciousness. Delirium came on, and in the night the man died.

Dissection.—"The meninges were of a deep red, and the vessels of the brain itself injected. There was sanguineous effusion around the vertebral column; the spinal canal, *without* the dura mater, which was sound, was full of blood, and, finally, the body of the fifth cervical vertebra was fractured transversely, a little below its middle, so that the two plates of this bone were separated from the lateral masses."—*Archives Générales, March*, 1827.

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19. *Injurious effects produced in Children by Protracted Suckling.* By Edward Morton, M. B. L. M.—Dr. Morton is of opinion—"1st. That if children are suckled for an undue length of time, (any period beyond nine or ten months,) they will be liable to be affected, in consequence, with inflammation of the brain." "2nd. That the same effect will take place in infants if suckled by women who have been delivered an undue length of time, although the infants themselves may not have been at the breast for too long a period." "3d. That, if they should not become affected with the disorder in question, during, or soon after the time they are thus improperly suckled, they will nevertheless acquire thereby a predisposition to cephalic disease at some future period of their lives." "4th. That children who are suckled for an undue length of time, when labouring under other diseases, will be much more liable to have the head secondarily affected than other children."—*Lond. Med. and Phys. Journ. August*, 1827.

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20. *On Sanguineous Tumours of an Equivocal character, which appear to be Aneurisms of the Arteries of Bones.* By M. Breschet.—These M. Breschet thinks have been confounded by writers, with osteo-sarcoma, fungus hæmatodes, inflammation of the veins of bones and of the bones themselves, &c. The disese generally arises spontaneously, sometimes follows blows or other external violence, occasionally succeeds gouty or rheumatic affections of the knee. It is usually situated at the posterior part of the leg, below the knee, and affects the tibia or fibula, or both; sometimes the disease occupies the metatarsal bones of

the foot. The tumour is painful, and the veins of the whole limb swollen, distended, and varicose. There is deep-seated pulsation synchronous with that of the arteries, this pulsation ceases on the artery, between the heart and tumour, being compressed. On pressing with the finger upon some parts of the tumour, a sound resembling the breaking of an egg may be heard. On dissection, the cellular tissue of the bones has always been found in great part or wholly destroyed—the cavity of the bone enlarged, filled with coagulated blood disposed in concentric layers, as in old aneurismal tumours, and these clots form one or several foci, each communicating with an arterial branch. The external table of the bone still remains, but thinner than natural—destroyed in several of its parts, and offering but feeble resistance, in comparison with a cartilaginous surface which yields to the finger, but quickly recovers itself. Sometimes the bone may be crushed easily, like an egg shell. The periosteum and the aponeurotic expansion, are generally thicker and firmer than in the healthy state, and sometimes they pass into a fibro-cartilaginous state. The articulation near the seat of the disease, has always been found healthy, even when it was only separated from the seat of the malady by an expansion of cartilage. Injection has proved that the principal vessels of the limb are healthy through their whole extent; this is not the case, however, with the small arteries which supply the substance of the bone, they are increased in size, and pass from the centre of the bone into the aneurismal sac by several orifices. M. Breschet thinks that this affection may be compared to erectile tissues of soft parts, and that the pulsation in them, which is sufficiently powerful to have led to the comparison between them and aneurisms, properly so called, results from the synchronous movements of dilatation and contraction of all the small arteries which pass from the bony substance to the parts affected. From these partial but simultaneous movements results a continued motion, which has also been frequently observed in erectile tumours of the lips, and of the globe of the eye, &c. That the disease is of an aneurismal character, is proved by the fact that the ligature of the principal trunk arrests the disease. The credit of being the first to detect the nature of this disease, and also of having first indicated the best mode of treatment, is due to Dupuytren. M. Breschet is of opinion that neither topical applications nor compression can be of any service in this affection, the ligature is the proper remedy; the sooner, however, it is applied the greater the chance of success, for the further the disorganization of the osseous tissue has advanced, the greater will be the difficulty of cure, even when the aneurismal character of the complaint is removed by the ligature. When considerable disorganization has taken place, amputation offers the only hope of a cure.—*Répertoire général d'anatomie, &c.*

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21. *Aneurisms of the Aorta.*—In the thirteenth vol. of our former series, we published an account, by Dr. Comstock, of a case of aneurism of the aorta, which burst into the intestinal canal; in the *London Medical and Physical Journal*, for August last, are detailed three cases, two of which burst into the pericardium, and the third into the œsophagus. In none of these cases was there any considerable inconvenience till within a short period before death.

Case I.—A Spanish officer, who had previously enjoyed excellent health, and was constantly taking violent exercise without inconvenience, was suddenly attacked, January 17th, 1827, in the morning, with the most excruciating pains darting through his chest, attended with a sense of suffocation, and great difficulty of breathing—pulse 100—bowels costive. Towards the afternoon, and during the whole night, he perspired freely, and all the symptoms gradually left him. Ordered some opening medicine. For two or three subsequent evenings, he had slight exacerbations of fever, attended with a good deal of pain in his stomach and bowels, which were moved with great difficulty. On free evacuations being procured, all these pains left him. On the 20th, pulse intermitted every second beat—slight head-ache and rheumatic pain, shooting from his chest towards the insertion of the pectoral muscles. On the morning

of the 23d, much better—spirits excellent—appetite good—stronger than since he was taken ill—intended next day to proceed to join the army. At one o'clock had an attack similar to that on the 17th, violent pain in one spot, a little to the right of the sternum. Fomentations were applied, and æther and laudanum given, without benefit. In about half an hour he became more disturbed, and suddenly fell back on his bed and after three or four gasps expired. On dissection, an aneurism of the aorta, of the size of a pigeon's egg, was found, about three inches beyond the semilunar valves. The artery had burst at the extremity of the sac, into the pericardium; owing, apparently, to a sudden impetus of blood, as there was no appearance of ulceration about the orifice, which was merely a longitudinal fissure, one-fifth of an inch in extent. The internal coat of the artery, at its margin, was smooth, and of a natural appearance. The coats of the vessel where they formed the sac, were not a third of their usual thickness. Specks of ossification were met with in the artery, from its root to its arch. Through the orifice one pound and a half of blood had flowed into the pericardium, which was completely distended. No other appearances discovered.

Case II.—A gentleman was suddenly taken ill under circumstances of peculiar excitement, and expired in a short time. On dissection "the cavity of the pericardium was found distended with blood, which had escaped into it from an opening in a small aneurism, situated at the origin of the aorta, just within the portion of it covered by the pericardium. Another aneurism was found arising from the aorta, very near, but quite externally to the bag of the pericardium. The former aneurism scarcely equalled the size of an almond; the opening from the aorta into it was through a narrow irregular fissure in the inner membrane, of about a quarter of an inch in length, and co-extensive with the slightly elevated margin of a steatomatous deposition, under which there was a passage, in an oblique direction, into the little aneurismal pouch. The bursting of this aneurismal pouch had opened a communication into the cavity of the pericardium, and had caused instantaneous death. The second aneurism was larger and deeper; for it admitted the end of the thumb into the opening from the aorta, and protruded, forming a cul-de-sac of an inch and a half in depth, and of the size of a small walnut.

"These aneurisms had obviously originated from some steatomatous depositions between the inner and fibrous coats of the aorta.

"Though the neighbouring portion of the aorta was thickly studded with similar steatomatous formations, (which so frequently form the matrix for the deposition of particles of bony matter there,) still none of these had acquired the consistence of cartilage, much less the hardness of liminæ of bone. The inner membrane of the aorta, in the spaces between these yellow steatomatous depositions, was red, and highly vascular.

"All the valves of the heart were in a perfectly natural condition. The brain also, and all the other organs, presented their natural appearances."

Case III.—A gardener was attacked, about the middle of April, with pain in the left side of the head, and general uneasiness, which he attributed to taking cold. A few days afterwards he had some difficulty of swallowing, and slight cough, and the former increased till he could not take solid food. Complained of pulsation in his chest, none at any time to be felt. Pain referred to the right side of the sternum, latterly unable to lie on his left side. Pulse 60, not intermitting. Was found dead in his bed, May 26, with blood issuing out of his mouth.

"On examining the body, an aneurism was found arising just below the point of departure of the left subclavian artery, and which had burst into the œsophagus. The stomach was distended with coagulated blood, and the air-tubes of the lungs also contained some, which appeared to have descended through the glottis."

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22. *Rupture of the Aorta, without Aneurism.*—Three cases of this, we believe rare accident, are related in the July number, 1827, of the *London Medical and Physical Journal.*

Case I. A gentleman aged 52 years, stout and large frame, rather full habit, had suffered at different times a good deal of anxiety of mind—was very suddenly attacked, February 16th, while engaged in earnest conversation, with a sharp pain commencing in his chin, and passing rapidly down his neck, in the course of the great vessels, to his chest and back. The next day Mr. Rose was sent for; he found the patient lying on his back, his pulse soft and easily compressed, about 96 or 100—tongue moist—countenance anxious—afraid to turn himself in bed or move. Could easily distend his lungs, but this like every other exertion, was followed by an increase of pain. There was nothing in the previous history of the case to throw light on the nature of his attack. On the 18th was better, ate with appetite, was easy and cheerful. Once or twice he complained of a noise, which he thought proceeded from some persons knocking on the partition between his room and the next, though nothing of the kind could be heard by others—he had also made the same complaint the day before. In the evening he became restless and got up repeatedly from a disposition to tenesmus. Mr. R. at his visit found him in a state of extreme depression, pulse feeble, very irregular and fluttering—cold perspiration on his skin—extremities cold. These symptoms subsided a good deal on some strong port wine negus being administered, and he continued quiet and easy until about 4 o'clock the next morning, February 19th, when the same disposition to tenesmus returned, obliging him to get out of bed two or three times. After being up for a few minutes, the faintness returned, and he shortly afterwards expired. On dissection the semilunar valves at the root of the aorta were found "partially ossified, at that part of their margin which is attached to the sides of the vessel. Beyond these, the whole internal membrane of the artery, as far as its bifurcation, presented an irregular thickened appearance, from numerous, whitish, flattened tubercles, of a steatomatous character, being every where deposited in it. It could be lacerated with the greatest ease. At the arch of the aorta, there was a rent of not less than two inches in length on its concave side, beginning in the ascending portion, and terminating immediately opposite the origin of the left carotid and subclavian. There was no appearance of ulceration at the edges of this rent. An enormous effusion of blood had taken place every where about the vessel."

Case II. A bricklayer fell from a scaffold forty feet high, fractured his cranium, lower jaw, four true ribs on the right side and three on the left. He lived an hour after the accident but in a state of insensibility, with a cold skin and feeble pulse. On examination "the aorta at the concave part of its arch, immediately beyond the origin of the left subclavian, but on the opposite side of the vessel, and where it turns to become descendens, presented a complete rent in its coats, the laceration forming a very oblong aperture, about three-quarters of an inch in length, and one-eighth across at its widest part. The line of laceration was straight, but oblique as regarded the axis of the vessel. The coats of the artery at this point, as well as elsewhere, offered no evidence of previous disease, but appeared perfectly healthy. No injury of the mediastinum could be discovered, and the aperture of the aorta did not seem in any way connected with the fractured extremities of the ribs."

Case III. A sailor jumped out of his hammock, groaned, and expired. He had gone to bed apparently in perfect health, and had been doing his accustomed duty the day before. On dissection "the aorta was found ruptured about an inch from the semilunar valves; this rupture was about half an inch in length. Small particles of calcareous matter were found deposited at the bottom of the mitral valves, and the corpora sesamoidea aurantii seemed to be composed in toto of this substance. The coats of the aorta were perfectly sound, as not the least deposition, either of ossific or calcareous matter, could be detected about the place where the rupture was situated. The abdominal viscera were perfectly healthy."

23. *Small-Pox after Vaccination.*—In the *London Medical and Physical Journal* for August last, some very interesting cases of small-pox after vaccination with remarks by the late T. CHEVALIER, are given. The cases occurred in a family of nine children who had been vaccinated in their infancy, and whose father suffered severely at an early age from small-pox, "so as to leave ground for an apprehension that the constitutions of his children might be predisposed to its malignancy, if it should happen to invade them." On the 7th of October, while walking, Julia, aged eleven, passed a child who had the small-pox. On the 14th she was attacked with the symptoms which usually precede the variolous eruption, and on the 16th Mr. C. saw her. He found her with an efflorescence of the skin which he did not believe to be small-pox. "There was, however, one point on the right cheek which looked like it; and on the 18th the disease was too well characterized to admit of any doubt as to its nature, though of the mildest character: the efflorescence of the skin, (which, in the uncontrolled state of the disease, I have always observed to prognosticate its most malignant form,) having entirely disappeared. On the 20th, the eruption appeared perfect, but the pustules small; and from that time it declined, without any thing like secondary fever. On the 28th there was slight inflammation and swelling of the right upper eyelid, sufficient to irritate the surface of the eye; but it soon yielded to mild treatment, and she has since continued in perfect health.

"The disease, however, having thus taken place in the family, naturally excited anxiety about the rest of the children, in whom the consequences appeared as follows:

"Edmund, the youngest, aged seven months, who had been successfully vaccinated by two punctures in each arm, and who was not withdrawn from the nursery during the illness of his sisters, had no symptom of the disease whatever.

"Georgiana, aged two years, had been vaccinated in one point in each arm. She had a little feverishness for two nights, which commenced on the 4th of November, but was followed by no eruption, and would in all probability have excited no suspicion of small-pox if it had not already pre-existed in the family.

"Maria, aged six years, was attacked with the constitutional symptoms distinctly on the 2d of November. Only one spot appeared, which was on her upper lip, and she was perfectly well on the 9th.

"Augusta, aged seven years, began to sicken on the 4th. The eruption appeared on the 7th, but it was very slight, and, though she had rather more debility than the rest during its course, it faded away in an equally short time.

"Harriet, aged nine years, was attacked on the 3d. On the 7th, a very slight eruption appeared, the characters of which were scarcely recognizable; and on the 9th she was perfectly well.

"Arthur, aged fourteen, had some symptoms which, being similar to those of an attack of small-pox, excited an expectation that he also would have the disease; but he was well after two days, without any eruption.

"Frederick, aged seventeen, was attacked rather severely on the 2d, with considerable fever. The eruption manifested itself on the following day: it was of the mildest nature. On the 7th, it began to fade, when he felt perfectly relieved, and was well in a few days.

"Caroline, the eldest, had been vaccinated in both arms in her infancy, by one puncture in each, and had suffered from considerable inflammation in both of them during the progress of her inoculation: she, however, escaped every symptom of the small-pox.

"I have not the smallest doubt that if vaccination had not preceded the infection in these cases, the consequence to this interesting family would have been melancholy in the extreme.

"I wish to add to this account, that, having been recently engaged in some rather extensive investigations concerning the structure of the skin, I find that the excretory ducts, (of which there are very many millions on the surface of

the body, serving different and important offices,) are for the most part obliterated in the foveæ, or pits, left by severe small-pox. So that a most serious change must suddenly and unavoidably occur in some of the most important functions in the animal economy; especially when the disease occurs, as it usually does, in the progress of growth, when nothing can be more essential than the integrity of the circulation of the blood on the surface of the body, and the perfection of those operations which are dependent thereupon. Hence we may account, in a great degree, for the excitement of those diseases of glands, of the eyes and eyelids, of the bones, and of other organs, which small-pox is so frequently seen to induce; and, although the balance may in time be restored in many instances, by the gradually increased determination to so much of the skin as remains uninjured, yet the alteration, so long as it operates, must be both injurious and perilous.

"A remedy, therefore, like vaccination, which in almost every case, if not in every case in which it has been properly performed, prevents the secondary fever, the ulceration, or gangrene, and the consequent pits, from occurring in small-pox, (even if it fail to exempt the constitution altogether from the disease,) although it had no other advantage, would be of incalculable value to society, and indisputably of the highest advantage to every individual upon whom it is bestowed."

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24. *Asthma.*—M. Broussais considers most cases of this disease as depending on some obstacle to the course of the blood; and that this obstacle is most commonly a disease of the heart. This is not, however, always the case. A determination of blood, however induced, to the mucous membrane of the lungs in a sanguineous subject, will often give rise to a paroxysm of asthma. M. Broussais has known inflammation and irritation in the mucous membrane of the stomach and bowels induce a fit of what is called spasmodic asthma. He considers the distinction drawn between dry and humid asthma as absurd. Every asthma is dry at the commencement of the paroxysm and the mucous membrane ultimately throws out a secretion which relieves the vessels of the lungs. In all cases, however, of asthma, M. B. avers that there is a congestion of blood in the vessels of the lining membrane of the bronchia and air cells, and that this should be looked upon as the proximate or immediate cause of the phenomena, and treated accordingly.—*Journal de la Méd. Physiol. January*, 1827.

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25. *Seat of Cancer.*—M. Cruveillier, in a short paper in the *Nouveau Bibliothéque Médicale* for January, 1827, asserts that the immediate seat of cancer is the fibro-cellular tissue. He founds this assertion upon examinations of the disease in the small intestines, stomach, and mammæ, and says that the opinion is strengthened by the fact, that the organs of the body are liable to cancer in proportion to the abundance of fibro-cellular tissue that enters into their composition.

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26. *Urethritis.*—M. Chapeau has read to the Society of Medicine of Lyons some observations on urethritis concomitant with rheumatic pains, and produced by the same causes. This coincidence has already been noticed in Vol. XIII. p. 216, of our preceding series, and it is we believe, not an uncommon occurrence, though much overlooked by practitioners, many of whom consider every inflammation of the urethra as produced by impure connection.

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27. *Periodical apyrectic diseases.*—Professor Fulci of Catania, Sicily, has published in the *Bibliothéque Médicale* for March, 1827, five very curious and interesting cases of this nature. The first is a case of intermittent inflammation of the urethra. A law student after an impure connexion, was attacked with a gonorrhœa which ceased the second day, returned on the third, continued twenty-four hours, and again ceased. On the fifth day, at the same hour as before, the disease assumed the quartan type, in which form it made two attacks, and then ceased altogether.

The second case is an intermittent cervico-brachial neuralgia, the paroxysms of which came on twice in the twenty-four hours, at 11 A. M. and 10 P. M.

The third was a case of intermittent mental alenation, which assumed a regular tertian type.

The fourth a very curious periodical ascites, which commenced immediately after each menstruation, and continued to increase till the next period, when it entirely subsided.

The fifth an anomalous intermittent neurosis.

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28. *Destruction of Articulating Cartilages.*—"Under the title of 'Usure des Cartilages Articulaires,' M. CRUVEILHEIR has described a severe complaint of the joints, which is often confounded with gout, rheumatism, white swelling, &c. and treated by means which are useless, if not injurious. This destruction, erosion, or wearing away of the cartilages, is one of the worst effects of inflammation of the synovial membrane of the joints. This effect continues after its cause has ceased to operate; and then the patient experiences a peculiar rigidity of the articulation, with a feeling, and even a hearing of cracking in the joint, on taking exercise, together with pain, of greater or less severity. This crepitus, this rigidity, these pains are particularly felt when the patient first gets up in the morning, and begins to move the joint. Our author has known cases of this kind treated, for a long period, with leeches, blisters, setons, &c. all of which failed—and even amputation had been proposed in some cases.

"M. Cruveilheir attended a lady who, after a severe labour, was seized with articular rheumatism, which travelled successively over all the joints. The pains at length diminished, but did not entirely subside. The patient, without experiencing any new attack of rheumatism, perceived her knee-joints to be gradually getting stiff and painful; and she could feel and hear a crepitus whenever she attempted to walk, or even to turn herself in bed. Soon after this, the hip-joints, the shoulders, the elbows, wrists, and even the metacarpal joints were affected in the same way. Various means were used, without effect, and a surgeon had placed extensive moxas on each side of one of her knees, which penetrated to the fibrous tissues, and produced a copious suppuration that continued some considerable time. The patient thought herself relieved, and consented to a similar application to the other knee. But after three months' sufferings in this way, the joints were found by our author as stiff as ever, and also as painful as before. The constitution had now suffered much from the local irritation. Daily motion was now tried; but this augmented the disease in all respects. He found himself on the wrong track, and quickly abandoned this plan. For a long time he hoped that anchylosis would put a period to this lady's sufferings; but in this expectation he was disappointed. One day, on accurate examination, he found that the joints on being moved conveyed to the ear and hand of the surgeon the crepitus above described. M. Cruveilheir then immediately recognized the nature of the malady as obliteration of the cartilages. For this state, there is no known remedy; but as M. C. conceives that it is the result of inflammation of the synovial membrane, the means of arresting the progress of the disease, consist of course, in rest, and in checking the phlogosis of the said membrane. Two very illustrative dissections are given of this obliteration of the cartilages. In one, the disease only affected the knee-joint—in the other, the hip-joint, the elbow, and the articulation of the lower jaw were the seat of the lesion."—*Medico-Chirurgical Review, July*, 1827, *from the Bibliothéque Méd. Jan.* 1827.

MATERIA MEDICA.

29. *Hydrocyanic Acid.*—Dr. Schneider has employed this acid as an external application to herpetic eruptions, and with signal advantage, even in cases of long standing, and which had resisted the usual remedies. He uses a drachm and a half of the acid, mixed with six ounces of alcohol, and sometimes to prevent too much irritation, adds six ounces of rose water.—*Rust's Magazine*, 21 *B.*, *S.* 569.

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30. *Atropia and Hyosciamine.*—A German physician, Dr. Kopp, recommends the injection of a solution of atropia into the rectum to facilitate the operation for fistula in ano, and to relieve also the spasmodic contractions of that intestine. He thinks also, that we may dilate the neck of the uterus in difficult parturitions by this remedy. As an internal remedy, he thinks the hyosciamine much preferable to any of the preparations of opium, as it has not the disadvantage of irritating mucous surfaces.—*Annales de la Médecine Physiologique, June*, 1827.

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31. *Nitro-Muriatic Acid Baths.*—Dr. Bernhard of Leipzig, has used these baths with advantage in chronic engorgements of the liver, and the diseases arising from it, as icterus, ascites, hydrothorax, &c. and in herpes, secondary syphilis, &c.—*Bulletin des Sciences Médicales.*

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32. *Belladonna in Scarlatina.*—In the last volume of the *Philadelphia Journal of the Med. and Phys. Sc.* will be found some observations which are highly favourable to the efficacy of the belladonna as a preservative against scarlatina. Dr. Lehman has published, in the twenty-second volume of *Rust's Magazine*, a memoir, in which he observes that an epidemic scarlatina prevailed at Torgau, in 1825, of so violent a character that one in eight of those afflicted with it died, and that thirty patients, all of tender age, fell victims to it. The belladonna was administered, with confidence, in many families, in which the disease appeared, and there could be no doubt of the good quality of the extract employed, nevertheless it did not act either as a preservative, nor did it mitigate the violence of the disease. Dr. L. did not perceive any difference either in the violence of the disease, or its results, when it attacked those who had taken the belladonna, even for a long time and in large doses, and those who had never taken the medicine.

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33. *Alcoholic Extract of Nux Vomica in Rheumatic Paralysis, and in the incontinence of Urine in Children.*—"A young man, an amanuensis, was suddenly attacked with difficulty in moving the right arm, and presently also with pain. When M. Mauricet, his physician, first saw him ten days afterwards, the shoulder and arm were very tender and swollen, and the forearm was always kept in a half-bent position, and in a state of pronation. Anodyne embrocations removed the pain in the course of eight days; but the patient could not execute the movements of the shoulder-joint at all. Half a grain of the alcoholic extract of nux vomica was then given twice a day in the form of pill. The movements of the joint soon afterwards gradually returned. At first they were involuntary and limited in extent; but by and bye they became much more free, and the patient acquired the command of them. After sixteen days of this treatment, during which the pills were increased to four daily, the joint was restored completely to its natural state.

"Two boys, one thirteen, the other fourteen years of age, had been liable from their infancy to nocturnal incontinence of urine. M. Mauricet, who was consulted by their father, resolved to try the effect of the extract of nux vomica, and gave each of them half a grain night and morning. In three days the incontinence disappeared, and it did not return so long as the remedy was taken. In fifteen days the remedy was discontinued, but the malady returned soon afterwards. The nux vomica was resumed, and with the same success. It

was again omitted, and the complaint again returned. At last the extract being again resumed, and taken without intermission for a month, the children were radically cured."—*Ed. Med. and Surg. Journ. July*, 1827, *from Archives Générales de Médecine, Mars.* 1827.

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34. *Action of Belladonna on the Pupil.*—"Some discrepancy having manifested itself on the extent of this action, from the different results of experiments in different hands, the conclusion seems to be deducible, that where the quantity of the belladonna employed is small, the dilatation is confined to one eye. M. EHLERS, on wakening in the morning, inserted in one of his eyes a portion of the extract not larger than the seed of a millet, and the consequence was, that the pupil of that eye only, (the other retaining its natural state,) continued greatly dilated for ninety-three hours, during which he could see with it perfectly well. If the quantity employed is considerable, both eyes are affected in the same manner; but the dilatation continues in the one to which the belladonna has been applied long after it ceases in the other. It may be added, that the effects of the drug are energetic and durable, in proportion to the quantity; and that it acts with greater readiness, but less duration when the subject is young."—*Lond. Med. Rep. August*, 1827, *from Archives Générales, for May.*

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35. *Camphor in Rheumatism.*—M. AMABLE CHEZE has communicated to the Medical Society of Lyons, many cases of acute rheumatism cured by general fumigation with camphor; he assists the profuse perspiration which it induces by appropriate means.—*Ann. de la Méd. Phys. April*, 1827, *from the Compte Rendu, par J. M. Pichard, D. M.*

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36. *Pomegranate as a remedy for Teniæ.*—D. ANTONIO BIGTI, of Pisa, in a paper in the *Nuovo Giornale di Letterati*, details his experience with the pomegranate, (punica granatum,) as a remedy against teniæ: he observes that it is the most certain and efficacious remedy he has found, but that much depends on the mode of preparing it. The part used is the bark of the root, this is most powerful and prompt in its operation in a fresh state, he details a case in which he gave a decoction of ℥i. of the fresh root in a pint and a half of water boiled down to one-half, to be taken in two doses at an hour's interval—in ten minutes after the last dose the patient passed a worm. He gives the following directions for its use drawn from a great number of trials.—The patient should take a dose of opening medicine the day before the decoction is taken—the bark should be taken from the roots of young plants—of the fresh root the dose is as given above: when dried, ten drachms are to be infused in cold water for twenty-four hours, and then boiled away one-half, this decoction is to be given in three doses—one every hour.

PRACTICE OF MEDICINE.

37. *Bleeding in the cold stage of Intermittent Fever.*—In the *Edinburgh Medical and Surgical Journal*, for April, 1827, there is an interesting paper, by Dr. MACKINTOSH on this subject. Believing, correctly, that the difficulty of breathing, the tremors, the pain in the head, the coma, and other symptoms of the cold stage, are owing to congestions of blood in the brain, lungs, liver, spleen, and other internal organs, Dr. M. determined to try the effects of blood-letting, and he had the boldness to practice it first on himself, in 1810, when harassed with an ague which resisted the usual remedies. Before twelve ounces of blood were drawn, the rigors ceased, with all their unpleasant concomitants—there was no hot or sweating state—a pleasant sense of heat succeeded the painful one of cold, and instead of weakness, he felt stronger.

He subsequently tried it on a number of other individuals, and with a similar result. He asserts, "that blood-letting in the cold stage, in every case in which it has been yet tried, has cut short the cold fits, and has prevented the subsequent stages of the paroxysm, so that the hot and sweating stages are saved. It seems to operate by anticipating the natural efforts of the constitution, removing the internal congestion, and restoring the lost balance of the circulating system." "I have seen," says he, "men in the most severe sufferings relieved, after the abstraction of six, eight, and ten ounces of blood. I have known three ounces suffice, and, on one or two occasions only, I had to bleed to the extent of two pounds. The relief, which is the most perfect relief that can well be conceived, is so sudden, when a good orifice can be made, that it has surprised and delighted every one who has seen my practice." Eight cases are detailed by Dr. M. to illustrate the above mode of treatment.

In a paper published in the *London Medical and Physical Journal* for July, 1827, Dr. Ridgway has adduced several interesting observations, in favour of the treatment recommended by Dr. Mackintosh. In 1810, having lost three or four patients successively in the cold stage of intermittent fever, and led by a similar train of reasoning to that adopted by Dr. Mackintosh, Dr. Ridgway determined to anticipate the paroxysm, and to detract so much blood from the venous system as might be sufficient to meet the effect of the approaching concentration. From the period this practice was adopted no fatal case occurred from congestion, and it became his established mode of treatment.

"Early in the year 1813, while the army was yet in winter quarters on the frontier of Spain, a soldier was received into the regimental hospital of the third battalion Rifle Brigade, who was first seen in the second paroxysm of a tertian intermittent, so fully formed as to afford no hope of its interruption. According to custom, the period of accession was marked, for the purpose of noting the time at which blood-letting was to be performed, so that it might immediately precede the following paroxysm. About an hour, then, as near as could be calculated, before this was expected to show itself, I presented myself at the hospital, but found that the paroxysm had anticipated its former period considerably, and that the cold stage was now distinctly formed. Disappointed at this, and anxious to save the man from a third paroxysm, as violent in all probability as the former, I determined to proceed, regardless of this unexpected obstacle, and took from his arm about twelve ounces of blood. To my utter astonishment, the cold, and other stages of the paroxysm, glided away imperceptibly, the disease was gone; and, after awaiting the next period of accession, the soldier returned to his duty, and never after made his appearance at the hospital."

Having thus been forced by circumstances to employ blood-letting in the cold stage of a paroxysm of intermittent fever, and the success being complete, Dr. R. felt quite satisfied of its safety and efficacy, and he says, "had I deemed it necessary in any future instance, I should have had no hesitation in resorting to it."

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38. *Diseases of the Skin.*—Drs. Graves and Stokes have published in the fourth volume of the *Dublin Hospital Reports*, some highly interesting observations on the efficacy of the physiological treatment of cutaneous diseases. We hope in our next, or in the subsequent number, to present some cases successfully treated upon this plan, by our coadjutor, Dr. Jackson; at present, as the treatment of these diseases in this country, is very generally empirical, we shall give a full analysis of the observations of Drs. Graves and Stokes.

Case 1.—A young girl was admitted 25th October last into the Meath Hospital, labouring under the severest form of psoriasis, affecting not only the scalp, face, and extremities, but almost the whole surface of the body. A most abundant desquamation of silvery white scales was constantly taking place—skin almost universally of a bright red colour and very itchy—pulse 100, strong—complained of thirst, but had good appetite, and in other respects appeared

healthy. By bleeding twice, low diet, the repeated application of leeches to the most inflamed parts of the surface, and the use of a pint of the decoction of sarsaparilla with two drachms of super-tartrate of potash daily, the cutaneous inflammation was subdued; recourse was then had to the use of sulphur internally, and warm baths containing sulphuret of potash. For some time the disease seemed to diminish under this treatment, but it afterwards appeared stationary. Recourse was then had to tar ointment, and afterwards to a mixture of tar and citrine ointments. "The parts to which the ointment was applied were well cleansed every day, either by means of diligent washing with soap and water, or with water containing a solution of caustic potash, as directed by Dr. Duffin. The warm baths and the internal use of sulphur have been continued; she uses a diet consisting chiefly of bread and milk, and is now almost completely well."

"In squamous diseases, more limited in their extent, we have successfully used a similar method of treatment; except that in such cases general bloodletting may be often dispensed with, as the repeated application of leeches to the affected parts is sufficient to subdue the active inflammatory stage of the disease. The only difficulty which occurs in the treatment of squamous diseases, is to determine the proper period for leaving off the local antiphlogistic applications, and changing them for stimulants. The latter, if applied too soon, will aggravate the disease, and when this is found to be the case, they should immediately be laid aside, and the application of leeches, poultices and cooling lotions be again resorted to."

As yet Drs. G. and S. have met with no case of scaly disease which has resisted the above method of cure.

Drs. G. and S. have also employed this treatment in chronic pustular and tubercular diseases.

Case.—"*John Knowlan*, aged 16, was admitted into the hospital early in December, 1825, covered with the most aggravated form of general porriginous eruption. The head, face, elbows, hands and wrists, were particularly affected; on the hands there was the most enormous accumulation of scabs, arising from the discharge of numerous pustules. The nails were thickened, contorted and split. A continual steam arose from his arms and hands, and the odour of the body was most disgusting. Indeed it would be difficult to convey in words a proper idea of his loathsome appearance. The eruption chiefly affected his scalp, face, and extremities; on the trunk there were but few pustules. The skin of the trunk was however red, rough with papulæ, and the cuticle fell off constantly in dry scales. The skin of the extremities was red and hot. He had occasional rigors and constant thirst, but was not emaciated. Under these circumstances it was determined to treat him on the antiphlogistic plan. He was, in consequence, bled twice to a considerable amount, freely purged, and used several warm baths; by those means he was greatly improved, the skin of the body had lost much of its inflammatory redness, but the hands were still loaded with the dried scabs, red, and constantly exhaling a dense vapour. They were leeched, and warm poultices applied over the recent leech bites. He continued using the warm bath, and took an electuary of the super-tartrate of potash, with sulphur. In the course of a week the bleeding and leeching were again repeated with great benefit; so much indeed had the inflammatory symptoms subsided, that it was thought adviseable to order him small doses of the arsenial solution. Under this plan he continued for some time, but the symptoms not yielding, this medicine was omitted, and he took the infusion of dulcamara without any perceptible benefit. The antiphlogistic plan was then recurred to, the head was shaved and poulticed, he was freely purged, and took several tepid baths; by this treatment every inflammatory symptom subsided, the head become clean, and the skin lost its red colour, but was still covered with small white scales in such abundance, that when he took off his shirt, a cloud of them would rise around him. The hands were still covered with thick scabs, but had lost their inflammatory appear-

ance. The pulse was slow, and the bowels freely open. The phlogistic diathesis being thus somewhat subdued, he used the sulphur bath, and an ointment consisting of equal parts of the dilute citrine and tar ointments was applied to the hands and head, with the greatest benefit; the scabs fell off, and a fine new cuticle covered the palms of the hands. Thus he continued for about ten days, during which time he had been put on a more generous diet. He now experienced a return of the eruption over the whole body, especially on the breast; it came out in the form of minute pustules, which quickly dried, leaving the surface covered by thin scabs. The skin was hot and red, and the pulse indicated great activity in the circulation. He was ordered to be bled, and was again freely purged. The *blood was buffed and cupped.* Great relief followed this operation. The skin lost its red colour and itchiness, and the pulse was reduced in strength and frequency. He was ordered to take no animal food. The baths were repeated, and his bowels kept freely open by the electuary of cream of tartar and sulphur. Under this treatment he rapidly improved, and after some time was even enabled to recur to the use of the tar and citrine ointments, which together with warm baths, completed the cure in a few weeks. He is at present, (December 15, 1826,) in good health, and quite free from the least trace of cutaneous eruption."

Drs. G. and S. have found a similar treatment efficacious in a case of sycosis menti, and have also used it with very marked success in porrigo of the scalp, or scald head. "Recent cases of porrigo yield readily to the application of leeches to the head, and poultices, repeated until the inflammation of the scalp is subdued." The formation of these pustules, be the case chronic or recent, are the result of inflammation, and their development will cease, with the removal of their cause; the cure may then be easily completed by the judicious use of the tar and citrine ointments. The first step, of course, in the treatment of all cases of porrigo, "must be cutting the hair, and the diligent use of emollient poultices, alkaline lotions, &c. until the scabs are softened and removed, after which the head should be shaved. Even in cases of long standing, we have found the greatest benefit to arise from leeching the head, and now almost always commence the treatment in this way. Recent cases however require a more frequent repetition of the leeches, and a stricter antiphlogistic general treatment than chronic cases. In several cases of scald head, where circumstances prevented us having recourse to leeches in the first instance, we have substituted, with advantage, poultices, with an ounce or two of liquor acet. Plumbi. In children this will often succeed in reducing the high inflammatory action. In one case only did the continued use of the acetate of lead produce symptoms like the colica pictonum."

The constitutional treatment must vary with the patient's peculiarities as to health. "In strong healthy children cooling aperients and a spare regimen will much facilitate the cure. In the weakly and emaciated, change of air, attention to the bowels, a more nutritious diet, and a judicious use of tonic remedies, may be combined advantageously with the local antiphlogistic plan, and in such the cure of the cutaneous complaint, by removing a constant source of irritation, will materially tend to restore the health.

"There is no doubt that the sudden drying up of cutaneous diseases has occasionally produced dangerous internal complaints. This danger does not seem to attend their cure by the antiphlogistic treatment, which, when prudently conducted, *diminishes the tendency to inflammatory action in the constitution, and does not, like merely local applications, destroy it in one part only to re-appear in another.*"

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39. *Colica Pictonum.*—Two cases treated by Dr. Graves yielded very readily to strong tobacco stupes applied to the abdomen, followed up by cathartic pills, containing croton oil, the operation of which were promoted by a purgative injection.—*Dublin Hospital Reports, Vol. IV.*

40. *Paralysis after Colica Pictonum.*—A case treated by Dr. GRAVES received great benefit from the use of strychnine, as recommended by Magendie.—*Ibid.*

41. *Treatment of Sloughing Ulceration of the Mouth, produced by Mercury.*—Drs. GRAVES and STOKES record two cases of salivation and death produced in children by small doses of calomel. The inefficacy of the ordinary remedies, determined Drs. G. and S. to proceed, should another case occur, on other principles. A girl to whose head half an ounce of mercurial ointment was applied, had her mouth on the subsequent day affected, and before three days had elapsed, the inflammation about the jaws, face, and mouth, had made such formidable progress as to threaten the life of the patient. Viewing the sloughing ulcerations as a consequence of previous excessive inflammation of the parts, Drs. G. and S. attempted to prevent their formation by moderating the inflammation. This was accomplished by frequently repeated applications of leeches to the most swollen parts. The bleeding from the leech bites was encouraged by emollient poultices; none of the stimulating gargles, usually so injudiciously recommended in excessive salivation, were allowed; the antiphlogistic regimen was enjoined, and the patient recovered. The above case offers a very happy illustration of the influence of the physiological plan of treatment.—*Ibid.*

42. *Treatment of Drowning and other Varieties of Asphyxia.*—"Some experiments and observations of considerable importance have lately been made at Paris on the circumstances which modify the effects of two of the chief remedies for asphyxia—namely, insufflation of the lungs, and galvanism. The author, M. LEROY D'ETOILES, has succeeded in throwing some light on the variable results which have been procured by these modes of treatment by almost every person who has employed them.

"With regard to Artificial Respiration, he has found that it requires much more cautious management than is generally believed; for if the air be blown into the lungs with too great force, they become unfit for their function. This he says he has found by repeated experiments on rabbits, dogs, and sheep. The following results were procured with the sheep, an animal whose lungs approach nearest in point of volume to those of man. An incision being made into the windpipe, and a silver tube secured in it by a ligature, a single forcible inspiration was made through the tube with the mouth, and the tube and ligature were immediately withdrawn. In the course of a single minute the animal became agitated and restless, made forcible efforts to inspire and expire, was then seized with convulsions, became motionless and senseless, and the pulse ceased in three or five minutes. If the carotid artery was opened during these symptoms, the arterial blood was observed to become rapidly more and more dark and venous. These phenomena were remarked in four successive experiments. In other three made with the same animal under the same circumstances, except that the insufflation was performed less rapidly, the breathing was not arrested so suddenly, but became at first embarrassed, and gradually more and more so, till at length death took place in about fifteen minutes from the beginning of the experiment. The symptoms under which these animals died, clearly indicated death by asphyxia, and the appearances in the dead body were conformable. The cause of the production of asphyxia under forcible insufflation is not very apparent; at least M. Leroy has not hitherto succeeded in throwing any light upon it. In the second variety of cases, the air-cells of the lungs were probably ruptured, and a communication between them and the cavity of the chest even established through the pleura, for the lungs could not be dilated after death. But in the first variety, in which death took place immediately, the same injury was not produced. The practical conclusion, however, to be drawn from his experiments is manifest and important—namely, that in performing artificial insufflation, the bellows ought never to be worked forcibly; and we may add another reason for cautious

management of them—that the operator is not perhaps, always aware how great the force is which he employs in working them. With the bellows a far greater force is easily put forth, than can ever be employed with the mouth, which was M. Leroy's instrument. If M. Leroy, however, is correct in considering the forcible expansion of the lungs as the cause of death in his experiments, the objection which applies to the forcible use of the bellows in the human subject, does not apply so pointedly to forcible insufflation with the mouth; because the operator subjects his own lungs to the same pressure as those of his patient, so that his own lungs will enact in a manner the part of a safety-valve, provided he is not superior in strength of chest to his patient.

"The other topic which forms the subject of M. Leroy's remarks, is the application of Galvanism to the treatment of asphyxia. It is well known, that although this remedy has been sometimes found singularly useful, it has very often failed and not unfrequently it has even appeared to do harm. M. Leroy thinks he has discovered the cause of its failure. When the galvanic current is applied in such a way as to affect the diaphragm, it is most always applied continuously, in which case the contractions are irregular, and do not constitute a natural inspiration. But if the current is suspended as soon as the muscular contraction begins, then a complete inspiration is produced, and the regularity of the subsequent expiration is not interrupted: on connecting the galvanic circle, a new contraction is produced, which in like manner causes a natural inspiration, if the circle is again interrupted. The plan recommended by M. Leroy, and adopted in his experiments, is to insert a fine acupuncture needle between the 8th and 9th ribs, till it reaches the attachments of the diaphragm, for which purpose a length of a few lines is sufficient—and then alternately to complete and interrupt the galvanic circle, by touching the needle with one conductor at the proper intervals, while the other is kept permanently in the mouth."—*Ed. Med. and Surg. Journ. July*, 1827, *from Archives Générales de Médecine, Nov.* 1826.

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43. *On the Treatment of Poisoned Wounds by Ligatures round the Limb.*—"M. Bouillaud has made some farther experiments on this subject: and they tend to confirm what is now pretty well established, that a ligature applied between the heart and a wound into which a poison has been introduced, will prevent or suspend its deleterious effects. His experiments were made with strychnia. The only novelties in them are the proof that it may be applied to the extremity of a divided nerve, without any of its usual effects ensuing—and a much more important result, namely, that by alternately relaxing and tightening the ligature at proper intervals, an animal, into which a fatal dose has been introduced may be alternately affected and relieved, till the whole poison has been absorbed, and has exhausted its energy. The author does not seem to have been aware of this practical application of the facts he observed. It is evident, that with regard to such poisons as opium, strychnia, and hydrocyanic acid, the system possesses the power either of discharging or decomposing them. Hence even after they are beyond the reach of direct extraction, their effects may still be controlled by art, if the physician can succeed in admitting them into the circulating system by little and little; for each successive portion is decomposed, and the poison has not an opportunity to accumulate in the blood to a sufficient extent to prove fatal. These views result from the experiments of M. Bouillaud, now mentioned, and likewise from those of Dr. Barry on the effects of dry cupping, when applied to wounds poisoned with the active vegetable poisons."—*Ed. Med. and Surg. Journ. July*, 1827, *from Archives Générales de Médecine, Nov.* 1826.

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44. *Ascites Treated by Graduated Pressure.*—"A woman who had been affected for several months with ascites, was received into the clinical establishment at Parma, under the care of Professor Speranza. The ascites was the result of chronic puerperal peritonitis: the patient had been debilitated by a

prolonged lactation, and was already hectic. Digestion was badly performed, the urine was scanty and turbid, and the abdomen tense. Purgatives, combined with squills, mercurials, drastic medicines, &c. had been employed without any good effect. Professor Speranza being unwilling to have recourse to paracentesis, determined to try the effect of compression of the abdomen; and employed the bandage recommended by Monro. From the time when this was commenced the urine began to flow, and became very abundant; more than fifteen pounds being passed in a day. In the course of seven weeks the abdomen was reduced to its natural size, and presented no sign of effusion. Professor Speranza then treated the case with sulphate of iron, squills, decoction of lichen mixed with milk, and a nourishing diet, without, however, discontinuing the pressure of the abdomen. The fever soon decreased, digestion improved, the woman regained her strength, and went out of the hospital in good health, which she yet continues to enjoy."—*Lond. Med. Rep. July*, 1827, *from Annali Universali di Medicina.*

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45. *Idiopathic Glossitis.*—Dr. Graves relates in the fourth volume of the *Dublin Hospital Reports*, the case of a medical student, who was attacked with severe febrile symptoms, ushered in by violent rigors, great pain in the neck, and occiput. The left half of the tongue then became very tender and painful—gradually increased in size, and when Dr. G. first visited the patient, was so enormously swollen as nearly to fill the mouth, which could scarcely be closed on account of the protrusion of the tongue. The right half of the tongue was perfectly natural, and its comparatively diminutive size formed a striking contrast with that of the left, the median line forming a perfect boundary between the swollen and the healthy parts. Part of the tongue appeared on the verge of gangrene, but two or three applications of six leeches at a time to the inflamed part produced a speedy decrease of the tumour and inflammation, but the left half of the tongue, after a lapse of two years, is still perceptibly increased in size. Idiopathic glossitis is a rare disease, a few cases only being recorded, and in none of these was the inflammation confined to one-half of the tongue, nor in any of them was leeches applied to the affected part. Dr. Gottel applied leeches under the tongue, and pushed actively the antiphlogistic treatment; the same was done by Dr. Maillier. In addition to these remedies, Dr. Olivet used local detractions of blood from the tongue, at first by means of incisions in the dorsum of the tongue, and afterwards by opening the sublingual veins. Dr. Graves considers the application of leeches as preferable to either, in this opinion we fully agree with him.

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46. *Chronic Diarrhœa.*—"There are many forms of this disease evidently dependent on ulceration or other organic lesion of the mucous membrane of the bowels, the consequence, or at least the sequence of dysentery. But there are some other cases of obstinate diarrhœa, where the disease goes on for years, and where dissection, after all, detects no organic change in the intestines. Dr. Baillie has described 'a particular species of purging,' which is but little known, and has generally proved fatal. The alvine discharges resemble a mixture of lime and water, with froth on the surface. It most commonly occurs in people who have resided in warm climates, and suffered from hepatic affections; but not exclusively in this class. When the disease is in a mild form, the evacuations are of the consistence of pudding, and of a pale colour. Under such circumstances, and especially if the motions be occasionally figured, the patients may live many years with the complaint. They have usually a sallow countenance—are thin, but not greatly emaciated—have tolerable appetites—white coated tongues. Nothing particular can be detected when the abdomen is examined by the hand. There is no tumour—no pain on pressure—but the bowels are generally distended with air. Dr. Baillie never had an opportunity of examining any patients who died of this disease, and therefore could not speak as to its pathology. But Mr. Wardrop, in a note to his

edition of Dr. Baillie's works, informs us that he, (Mr. W.) had an opportunity of dissecting a patient who had been under Dr. B.'s care for this complaint, and that he found considerable thickening of the coats of the rectum and colon, great contraction of the calibre of the gut, with small, but deep ulcers interspersed over its surface. Dr. Seymour and Mr. Arnot, however, have each had an opportunity of examining the intestinal canal in this complaint; but in these instances, there was no breach of structure or organic alteration of any kind in the large or small intestines.

"We have been induced to notice this subject in consequence of a remedy which has been introduced of late by Dr. Elliotson, at St. Thomas's Hospital—namely, the sulphate of copper, combined with opium. This zealous physician has given the remedy in a considerable number of cases of chronic diarrhœa, where all, or almost all other remedies had failed, and with complete success, in every instance. The dose is generally half a grain twice a day, with half or a grain of opium, increasing the dose to two or three grains in the day, but seldom beyond that quantity. We understand that Dr. E. made experiments with the opium alone, which failed to cure the patients—and the reason why he combined it with the sulphate of copper, was to prevent the latter from causing pain in the stomach and bowels.

"Dr. E. is inclined to view the remedy in respect to its modus operandi, as simply an astringent, but when we reflect on the power which this sulphate possesses of allaying irritability when applied to external sores, we shall be induced to attribute much of its success in these cases, to its action as lessening morbid irritability of the intestinal canal. But as Dr. Elliotson's observations will probably soon be published, we shall defer any farther remarks till that period."—*Medico-Chirurgical Review, July*, 1827.

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47. *Mercurial Frictions in Puerperal Peritonitis.*—M. Velpeau has published in the *Révue Médicale, for Jan.* 1827, a memoir on the use of mercurial frictions in puerperal peritonitis. Having seen forty or fifty patients die, notwithstanding the application of leeches to the abdomen, general depletion, and the other usual modes of treatment, M. V. concluded that the disease when once established, is rarely benefited, but often rendered worse by blood-letting, whether general or local, and he determined to use mercurial frictions, so highly recommended by the surgeon of the public hospital of Antwerp. Accordingly he has employed it in several cases, and he thinks that he is authorized to draw the following conclusions from the facts which he has observed.

"1st. That puerperal peritonitis, once completely established, and abandoned to itself, is almost invariably mortal.

"2d. That it remains yet to be proved that sanguineous depletion *alone* is adequate to the cure of the disease.

"3d. That the writings of Hamilton, Gordon, and Vandenzande incontestibly prove that, by means of calomel, in large doses, many cases of puerperal peritonitis, of the most severe kind, have been saved.

"4th. That mercurial frictions over the abdomen, made at short intervals, promise considerable success, and that this ought to draw the attention of the profession to the said point of practice.

"5th. That, by means of mercurial frictions, patients have been rescued, as it were, from the brink of the grave; and consequently that this remedy should be tried, however late in the disease.

"6th. That the friction should be continued, without fear, until the mouth becomes affected—and, in most cases, for some time after all the symptoms have subsided.

"7th. That it would probably be advantageous to conjoin the internal administration of calomel, warm baths, and warm temperature.

"8th. That the facts observed by the authors, without being sufficiently numerous or conclusive, are yet such as may encourage, authorize, nay compel practitioners to prosecute the inquiry."

M. V. recommends two drachms of the mercurial ointment to be rubbed in on the surface of the abdomen every two or three hours. After two or three frictions, should the symptoms not be ameliorated, he directs the abdomen to be anointed with oil, and washed with soap and water, and the frictions to be renewed. This treatment is to be continued some time after marks of salivation have shown themselves. The patient is to be kept in a temperature considerably elevated, and carefully guarded against cold currents of air.

We should be pleased to know upon what principles M. Velpeau can explain the fact which he asserts, viz. that in the cases he has treated sanguineous depletion totally failed, if it did not occasion actual harm, while the mercurial frictions always mitigated the abdominal pain and tension, and, on more than one occasion, seemed to place the patients out of actual danger. It is true, he gives it as the result of his experience, and after all, experience must decide the value of this mode of treatment. But it should be recollected that experience not unfrequently leads us astray, and when its results are at variance with the conclusions of reason, we should receive its dictates with proper caution.

OPHTHALMOLOGY.

48. *On the Inflammation of the Membrane of the Aqueous Humour.* By Dr. Wedemeyer.—A scrofulous, rheumatic, and arthritic predisposition, contusions of the eye, and inveterate syphilis, Dr. Wedemeyer considers as capable of producing the inflammation in question. The signs which he has observed to characterise it, are, little pain in the eye or external redness; want of transparency of the internal surface of the cornea, at the commencement, although the external surface remains moist and shining; subsequently small opaque spots on the internal surface, and cloudiness of the cornea. The aqueous humour is also cloudy, it is secreted in unusual quantity, and constitutes a true acute dropsy of the anterior chamber; the patient becomes near-sighted, (myoptic,) his sight is much affected; often the march of the disease is very rapid, blood is effused in the anterior chamber, and afterwards pus: sometimes the inflammation extends to the iris, the colour of which part then changes. These symptoms disappear more or less slowly under the influence of an antiphlogistic and revulsive treatment, but collyria and other local means are of little utility.—*Langenbeck: neue Bibliothek für die chirurgie und Ophthalmologie; tom. 4. p.* 66.

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49. *Observations on the Inflammation of the Capsule of the Aqueous Humour, Chronic Iritis following the operation of Keratonyxis, &c.* By Dr. G. C. Schindler.—Dr. Schindler relates two cases of inflammation of the serous tunic of the aqueous humour. The diagnosis which he indicates, differs but in a few particulars from that of Dr. Wedemeyer. He asserts that the colour of the iris undergoes no change, but that the pupil closes, and sometimes takes an unnatural figure. The lymph poured out in the anterior chamber form bands uniting the different surfaces, and sometimes produce a false membrane which closes the pupil. The inflammation terminates always by secretion, and never by suppuration; Dr. Schindler thinks that internal sympathetic ophthalmiæ, hitherto considered as appertaining to iritis, have their seat rather in the serous membrane.

In the two cases which he has treated, calomel and the extract of belladonna were of great service, and he considers them as the best means that can be employed to cure the disease.

He considers simple inflammation of the serous capsule of the anterior chamber of the eye, contrary to the opinion of Professor Langenbeck and Dr. Wedemeyer, as different from the inflammation which sometimes follows the

operation of keratonyxis, because the latter is more complicated and slower in its progress. Dr. Schindler does not entertain so unfavourable an opinion of keratonyxis as Dr. Wedemeyer and Professor Langenbeck: he has seen only a single instance of inflammatory symptoms succeeding that operation, and in this case a single bleeding relieved it; he advises that the cornea should be punctured more towards its centre than inferior part, because we thus avoid the danger of wounding the iris, the movements of the needle are less extensive, consequently there is less pressure on the lips of the wound, finally because the cicatrice, always trifling, speedily disappears totally.—*Ibid.*

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50. *Deep-seated Inflammation of the Eye.*—Mr. Bury relates in the *Medico-Chirurgical Review*, for July last, an interesting case treated by Mr. Wickham, which shows in a very striking manner the control of mercury over iritic inflammation, and its power of effecting the absorption of the effused lymph.

Case. A woman, æt. 21, corpulent and florid, has had a slow but continued inflammation in the right eye for two years, during which her vision has gradually become more and more indistinct, till, at last, it is lost. No appearance of inflammation of the conjunctiva or sclerotica—pupil immoveably contracted, its edge surrounded with a margin of lymph, of a brownish colour—suffers much from deep-seated pain of the eye-ball. Considering it a case of chronic inflammation of the iris and choroid, and understanding that the usual antiphlogistic treatment had been fully and repeatedly gone through, calomel with opium was at once given, and as soon as the mouth was affected, which was in five days, an evident amendment took place in the vision, and a slight mercurial action being kept up, she by degrees recovered her sight completely. Soon after this the left eye was attacked with deep-seated inflammation, which was treated by a renewed excitement of the mercurial action. These attacks after a time, were again and again renewed, and only yielded to the repetition of the mercurial action. At the close of an attack of inflammation quin. sulp. gr. iij. three times a day were administered, in the hopes of destroying the disposition to a repetition of the attack. Slight attacks of superficial inflammation occurred subsequently, but in the course of three weeks she appeared well.

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51. *On the Artificial and Accidental Evacuation of the Anterior Chamber of the Eye.* By Dr. Basedow, of Mersebourg.—Dr. Basedow considers the evacuation of the anterior chamber of the eye as the dernier resource in cases of ophthalmia, threatening to terminate in suppuration and destroy vision, and he represents it as capable of saving the eye in almost desperate circumstances. He has performed the operation only in four instances, but these were all crowned with success. He divides the cornea at its most dependent part, and makes the incision but one-third the extent required in the operation for cataract. In the cases in which he operated, the aqueous humour flowed with the pus, and the evacuation was repeated, as the chamber became refilled, until the incision healed. The cornea recovered in transparency, a few days after the operation, and the cure was perfect. Dr. B. endeavours to explain the favourable effect which the evacuation of the anterior chamber exercises over the progress of inflammation of the anterior parts of the globe, and cites the cases of disease where the spontaneous or accidental evacuation of the aqueous humour, frequently repeated, is either useful in preserving the organ, or, at least, is without any real danger to vision. Among these are certain scrofulous and rheumatic ophthalmias, with superabundance of aqueous humour, extreme tension of the eye, and ulceration of the cornea, which gives exit to the fluid, and thus relieves the internal compression, and in the second place certain traumatic lesions of the globe, of which the author gives some examples.—*Bulletin des Sc. Med. from Journ. für Chirurg. und Augenheilkunde, t.* viii. *p.* 594.

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52. *Hypopion.*—Dr. Gierl, in a late work on this disease, recommends, if the inflammation does not yield to antiphlogistics, that the matter should be

evacuated, not only when it exists in the anterior, but also when occurring in the posterior chamber of the eye; and in this latter case he proposes to make an opening into the posterior chamber through the sclerotica. Dr. G. has performed this in a single instance only, but with complete success.

We do not believe that this mode of evacuating the pus has any advantages, and cannot advise an imitation of the practice.

SURGERY.

53. *On the Treatment of Tetanus.*—Every means which offers the slightest prospect of affording relief in this truly indomitable disease, is deeply interesting to the profession. Dr. MARSH, in a paper in the *Dublin Hospital Reports*, vol. iv. proposes to treat it by placing the patient, for many successive hours, in a vapour bath of a low temperature; and at the same time to powerfully uphold and support his strength. Dr. M. relates three cases in which this plan was tried. The first was a boy about six years old, in whom the symptoms of tetanus came on gradually, several days after an injury in the great toe. The paroxysms were severe and frequent. Purgatives not acting on the bowels, and opium not mitigating the symptoms, he was placed in a vapour bath, the heat of which was not allowed to rise beyond ninety degrees. He remained in the bath six hours, was purged actively with croton oil, and a liniment of extract of belladonna and oil of amber was very frequently rubbed along the spine. This treatment was persevered in for many successive days, (the bath being employed, uninterruptedly, for four, six, and sometimes eight hours at a time,) and the patient slowly recovered. On removing him from the bath, it was found that the sore, which had been foul and unhealthy, began to improve in appearance.

The second case was a very severe one, it was that of a boy twelve years old; the disease arose from an injury to the ankle joint. The uniform effect of the vapour bath, was to abate the violence of the symptoms, without however, influencing the rigidity of the muscles. The tetanic symptoms, however, disappeared thirty hours before death. The patient died worn out, after a protracted disease.

In the third case, ptyalism, without benefit, having been established, it was resolved to put the man in the vapour bath, which was steadily persevered in for many successive hours, daily, and often during the night, until every symptom of the disease had gradually subsided. In this case Dr. R. says "the severity of the symptoms were remarkably diminished by the bath."

Our views of the pathology of tetanus have led us in two cases, the only ones that have come under our care, to treat them by a different mode. Believing it to be an inflammation of the spinal marrow and its membranes, we treated one case principally by general and topical depletion, the latter being effected by cups along the spine. In the second case we trusted principally to topical depletion; a double row of cups were placed along the whole spinal column, so many of them were scarified as enabled the operator to detract the quantity of blood we thought the patient should lose, and the remainder were kept on an hour. Both cases proved fatal; it is, however, right to add that neither of them were very favourable cases of experiment. The first was a man of extremely nervous temperament, and the second an habitual drunkard. Notwithstanding our want of success, should we be called upon to treat another case, we should be disposed to pursue a similar plan. We would substitute leeches, however, for cups.

In the *Annales de la Médecine Physiologique*, for February, 1827, M. LASSERRE has related four cases, all of which were cured. The treatment consisted principally in general, and more especially local depletion along the spine,

the epigastrium and the muscles which were the seat of spasm. The second case was one of traumatic tetanus.

M. Broussais, in his remarks on the paper of Dr. Lasserre, ridicules the use of opium in the disease, as it produces, he says, disorders of the stomach and head, which reacts upon the spinal affection. He also abstains from the use of violent purgatives; considering the constipation to be the consequence of the affection of the spinal irritation, and to be remedied by the removal of the cause. He recommmends for that purpose general bleeding, and especially topical depletion, by leeches applied along the spinal column, and upon those muscles to which an excess of nervous influence is directed.

M. Carron reported last year, to the Medical Society of Lyons, five cases of tetanus; three of them were traumatic, two of which, and both the cases of idiopathic tetanus, were cured. They were treated by M. C. by leeches and bloodletting, principally the former. The case that terminated fatally was treated, in the first instance, with opium and musk; M. C. was called in late in the disease, and employed depletion by leeches, but without success. On dissection, the membranes of the spinal marrow were found red and injected; small vessels not visible in a natural state of the parts, were apparent in the spinal marrow, which was reddish, and floated in a great quantity of a colourless serous fluid, particularly in the cauda equinæ; the right portion of the diaphragm was contracted and as hard as parchment, the left part was natural; the mucous membrane of the stomach was of a dull red, and presented here and there small black ecchymosed spots; the solar and semilunar plexuses were of a deep red; all the other organs were in a natural state.

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54. *Abscess of the Liver.*—A robust man was admitted into the new Meath Hospital with acute inflammation of the liver, which terminated in abscess. A very distinct feeling of deep-seated softness was soon perceptible to the touch, yet the abscess showed no tendency to point outwards. The external tumour being very diffused, and of course the situation of the abscess quite uncertain, the surgeons of the hospital disapproved of any attempt to open it; but as the man's constitution was rapidly giving way, Dr. Graves proposed that an incision about four inches long should be made exactly over the centre of the tumour, and continued if possible to within one or two lines of the peritoneum, in the hopes that the abscess might finally burst through it. The operation was performed by Mr. Mac Namara, yet the abscess was not felt more distinctly. The wound was plugged at its bottom with lint to keep it open, and two days after, upon the patient's sneezing, a large quantity of pus burst forth through the wound. The matter however came from one side and not from the bottom of the wound, the incision not having been made exactly over the abscess. Dr. Graves thinks that this mode may prove serviceable in similar cases, many of which have hitherto been considered beyond the reach of art.

It has been recommended by Mr. Porter in deep-seated abscesses pressing on the larynx and trachea, (Vide Philadelphia Jour. Med. and Phys. Sc. vol. 14, p. 371,) and we think it will be found useful in many cases of deep-seated abscess.—*Dublin Hospital Reports, Vol. IV.*

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55. *Case of ununited Fracture of the Arm, successfully treated by Pressure.* By M. Brodie.—A man aged 24, in Nov. 1825, fractured his right arm, the accident was treated in the usual manner, but bony union did not take place. In August, 1826, a seton was passed between the fractured extremities of the bone. The seton was *withdrawn* at the expiration of *a week*. Some inflammation causing the surrounding soft parts to become consolidated and thickened, must have followed the operation, as it was supposed that a cure had been effected. When the inflammation however subsided, the bones were as loose and moveable as ever.

" On the 29th of November, 1826, the man was admitted into St. George's

Hospital. At this time the broken ends of the bone appeared to be united by ligament, admitting of extensive motion. They rode considerably one over the other, and the limb was somewhat shortened. The following plan of treatment was adopted, founded on a principle suggested by Mr. Amesbury.

The forearm being placed in the half-bent position, a wooden splint, adapted to the half-bent figure of the limb, was applied on the inside extending from the axilla to the fingers; a straight splint was then placed on the outside of the arm, extending from the shoulder to the outer condyle; and these splints were secured by bandages. On the outside of all, a tourniquet was applied, the band of which embraced the limb in the situation of the fracture. By turning the screw, which was on the outside of the arm, additional pressure was made on the fractured bones; and it was easy to regulate the pressure, so that it should be as great as possible without occasioning much distress to the patient. The curved wooden splint in the outside being broader than the limb, and only slightly concave, the principal blood-vessels were defended from pressure, so that, whatever force was employed for the purpose of keeping the fractured ends of the bones in close contact, the circulation of the limb continued nearly uninterrupted.

"This plan having been pursued for about six weeks, it was found that the fractured bones admitted of much less motion than before. At the end of three months, no motion whatever was perceptible; but, by way of security, the use of the apparatus was continued for another month.

"On the 31st of May the man left the hospital, having been for some time allowed the free exercise of the limb, without splints or bandages, the bones being firmly consolidated, and the limb as useful as it was before the accident." —*Lond. Med. and Phys. Journ. July*, 1827.

We are induced to notice the above case for two reasons, 1st, because the mode of treatment resorted to is ingenious and novel, and it may occasionally be useful to resort to it, but we are far from believing that it will succeed when the seton fails—the above case cannot, we think, be cited to the contrary; 2d, because it shows the common cause of failure in the attempts to cure artificial joints by the seton. In these cases long continued inflammation must be kept up, and therefore, Dr. Physick, the author of the practice, directs that the seton should not be withdrawn for four or five months, unless bony union earlier takes place. (Vide Dorsey's Surgery, vol. I. p. 127.) In the first case in which Dr. Physick used the seton *no amendment was perceived for twelve weeks*, but in *five months* the cure *was complete* and the arm as well and strong as it had ever been. Instead, however of keeping the seton in the limb for sixteen or eighteen weeks, it is usually removed in as many days, or even "at the expiration of a week," and it is then announced as a failure!

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56. *Case of Inflammation of the Tongue cured by Incisions.* By Charles Martin, of the Island of Mull.—A stout healthy man aged thirty-five, was attacked in the evening with acute pain in his tongue, at first so circumscribed that it could be covered with the point of the forefinger. The pain was attended with a most distressing sensation of heat, and a feeling as if the tongue was gradually and uniformly enlarging. Violent throbbing of the lingual arteries—restlessness—rather feverish—head-ache—saliva adheres tenaciously to the roof of the mouth and surface of the tongue. The tongue rapidly increased in size, protruded from the mouth, separating the jaws to the extent of half an inch. Between twelve and two o'clock the patient applied to Mr. Martin. At this period the tongue occupied so large a portion of the mouth that Mr. M. could scarcely introduce his little finger between it and the upper jaw. Tongue smooth and hard to the touch, thickly coated with viscid mucus, its point presented a glistening appearance owing to the tension. Mr. M. immediately took thirty ounces of blood from the arm, and an hour afterwards repeated the bleeding to a similar extent. Three hours afterwards Mr. M. found the disease

had rapidly advanced, respiration through the mouth totally suspended, and breathing through the nostrils even attended with difficulty—countenance flushed and anxious—pulse fluttering—breath offensive—in short the patient was threatened with immediate suffocation. Believing that the only remedy by which the patient's life could be saved was the knive, Mr. M. had his head properly secured, the mouth opened as wide as possible, and introduced a scalpel with its flat surface along the tongue, and made a *deep* incision in the most prominent part of the right side. On withdrawing the scalpel a quantity of blood, mixed with *puriform* matter issued from the wound. Two incisions were afterwards made, one in the middle, the other on the left side of the tongue, but no purulent matter followed. The bleeding was promoted by the use of warm water. The patient was promptly relieved, in a quarter of an hour could articulate words pretty distinctly, and his respiration became free and easy.—*Ed. Med. and Surg. Journ. July*, 1827.

57. *Case of Cynanche Laryngea, in which the operation of Tracheotomy was Successfully Performed.* By FRANCIS WHITE, Esq. of Dublin.—The ill success that has usually attended the operation of tracheotomy, in inflammations of the larynx and neighbouring parts, has almost deterred surgeons from resorting to it, but temporary relief being afforded by it, at the expense of a painful operation. The following case, therefore, in which the operation was attended with complete success, will be read by the profession with great interest. We condense the account from the fourth volume of the *Dublin Hospital Reports*.

John Duff, æt. 33, was attacked with cynanche laryngea, followed by some effusion in the trachea. The usual remedies were employed, but without affording any relief, and the patient was threatened with suffocation. Under these circumstances, Mr. White determined to open the trachea, which he did in the following manner, assisted by Messrs. Carmichael and Roney. "Having made the external incision of sufficient length, and cut through the fascia, I came down to the muscles, and on separating the edges of the sterno-thyroid muscle, the two thyroid veins were exposed, together with a considerable arterial branch,* the pulsation of which was quite perceptible, directing its course upwards towards the cross slip of the thyroid gland: having pressed aside the artery and one of the veins with my finger a little to the right, I then cleared away some cellular membrane, and laid bare the trachea: a sharp-pointed bistoury being now introduced between two of its rings, I cut directly upwards about half an inch in length, when the air escaped with considerable force, and much muco-purulent matter was expelled. Finding a mere division of the part not sufficient to allow a free discharge of the accumulated fluid, which was of a viscid ropy nature, I cut off lateral slips of the cartilages, which leaving ample space, the patient breathed with freedom, and expectorated large quantities of mucus. I attempted to introduce a silver canula into the wound, but the irritation from the necessity of continually withdrawing and replacing the instrument in order to carry off the mucus rapidly collecting about the mouth of the aperture, at length compelled me to abandon the use of the tube. In fact, as the parts lay sufficiently open I determined not to interfere any further, at least for the present. His improvement was now most evident, and it was gratifying to witness his sudden relief from impending suffocation. A careful pupil was left with him to wipe away the discharge which occasionally obstructed the inner opening causing temporary distress and difficult breathing."

Nothing interesting occurred except a severe ptyalism; which reduced the patient much, until the sixth day, when the external wound began to granulate and close; Mr. W. cut away the granulations, and was enabled to introduce a

*From the situation of this artery there can be no doubt of its being that branch which Mr. Harrison, in his work on the Surgical Anatomy of the Arteries, describes under the appropriate name of Middle Thyroid Artery; and though looked upon as an irregular distribution, yet from its frequent occurrence, the surgeon should be on his guard, as wounding an artery in such depth of parts might be attended with most embarrassing circumstances during the operation.

leaden canula, which the patient bore without uneasiness, "and from which he seemed to derive considerable relief. He made several attempts to breathe through the glottis, but to no effect, and on the 14th of April, his former symptoms returned, and became so urgent that I was obliged to enlarge the opening. I had introduced an ivory canula of a conical shape, and slightly curved, which filled up the entire opening, but was only admitted so far as to lie in contact with the edges of the tracheal aperture. This instrument has answered so well, that the patient at present wears it attached to a leathern stock which he buckles behind his neck, and is sufficient to keep the tube in its proper situation. It is occasionally taken out in order to wipe away the mucus which gathers about it.

"It is now two years since the operation was performed, and the patient, whom I saw this day, (March 17,) has during that time worn the tube without any inconvenience, or being in the least prevented from working at his trade. The sides of the opening, which is of an oval shape, and one inch in depth to the trachea, are perfectly healed, smooth, and covered with a thin cuticle. The rima glottidis still remains closed, yet not so much so but to yield to slight expiration, while he is incapable of performing the act of inspiration through the glottis or of speaking without closing the aperture of the canula with his finger. On examining the fauces, the epiglottis appears thickened and standing erect."

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58. *Singular Variety of Hernia, treated by* B. C. Brodie, Esq. A middle-aged woman was seized in the evening with pain in the abdomen and sickness. After straining violently in the act of vomiting, she discovered an unusual appearance, which led her to believe that she had suffered a miscarriage. The following evening she was admitted into St. George's Hospital.

"At this time not less than two yards of small intestine, with a corresponding portion of the mesentery, were seen protruding through the anus. The whole mass bore marks of a high degree of inflammation, and the intestine was much distended with air and liquid fæces. On examining the rectum with the finger, it was found that there was a transverse slit on the anterior part of it about two inches above the anus, through which the protrusion of the small intestine had taken place. On attempting to reduce the protruded intestine, at first it readily re-entered the anus, but, when about one-half of it had disappeared, the reduction became difficult, and about one-fourth part of it could not be reduced at all. In fact, no method could be devised by which even a part of it could be made to pass through the slit in the rectum, so as to resume its natural position in the peritoneal cavity. The pressure of the hand caused the small intestine to ascend into the rectum, where it lay only as long as this pressure was continued; and nothing further in the way of reduction could be accomplished.

"Under these circumstances, Mr. Brodie made a longitudinal incision of the linea alba, about two inches in length, below the umbilicus. The incision was continued through the peritoneum into the cavity of the abdomen; and the fingers being introduced at this opening, by gently pulling the small intestine, that portion of it which had protruded through the slit of the rectum was readily drawn back into the abdomen. It having been ascertained, by examining the rectum with the finger, that the reduction was completed, the edges of the wound in the linea alba were brought together by sutures.*

"After the operation, the pulse was scarcely perceptible; the extremities were cold; and the patient was sick, throwing up again immediately whatever she swallowed. In about two hours the pulse was somewhat stronger, and the extremities were warmer; but the restoration of the vital powers was imper-

* During the operation, a part of the small intestine protruded through the wound of the linea alba, but it was readily replaced after the reduction of that which had protruded through the opening in the rectum was completed.

fect, and after some hours they again began to fail, and the poor woman died about six o'clock the next evening.

"On examining the body, the peritoneum generally was found much inflamed, and in many parts covered with a layer of coagulated lymph. That portion of the intestine and mesentery which had formed the protrusion was, however, less inflamed than it had appeared to be previously to the operation. There was a transverse opening in the anterior part of the rectum, without any marks of ulceration in the neighbourhood; whence it was concluded that the opening was the result of accidental laceration."—*Lond. Med. and Phys. Journ. June*, 1827.

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59. *Chloride of Soda and Lime in Chilblains.*—"M. Lisfranc announces, that the result of his application of these preparations to chilblains, both ulcerated and not ulcerated, continues to be successful. The former have uniformly been cured in a fortnight, and the others in four or five days. He covers the parts affected with a compress charged with cerate, upon which a considerable mass of lint is laid, wetted with the chloride. The apparatus must be kept constantly wet. Intense inflammation does not counter-indicate the use of this remedy; it is merely requisite to dilute or increase its strength, according to the degree of pain which follows its application."—*Archives Générales.*

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60. *Extirpation of the Parotid Gland.*—In the second volume of the Heidelb. klin. Annalen, there is an account of an operation for the extirpation of a sarcomatous parotid gland, successfully performed.—*Bulletin des Sc. Méd.*

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61. *Acupuncture.*—"Mr. Earle lately employed this mysterious remedy in a case of obstinate sciatica, which had resisted every other method of treatment. Two needles were introduced, to the depth of an inch, near the sacrum, and kept there a quarter of an hour. The sciatica almost immediately ceased, and the patient passed a quit night, for the first time during some months. The old enemy returned, though not in force, a few days afterwards, and was finally routed by a couple of needles."—*Medico-Chirurgical Review, July*, 1827.

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62. *Seton in Preternatural Joints.*—Evidence is constantly accumulating of the value of the seton in the cure of ununited fractures, as recommended by our esteemed friend and coadjutor, Dr. Physick. In the fourth volume of the *Dublin Hospital Reports*, Dr. Brown has related a case of a gardener, aged sixty, who received on the 3d of August, 1825, a compound fracture of both bones of the right leg, and was admitted on the 7th of September into the Meath Hospital, with his general health much impaired, and no appearance of union in the fracture. By proper treatment his health improved, and the fracture of the fibula had united on the 5th of November, but there was soft union between the ends of the broken tibia, allowing of motion. A seton was passed by a fistulous opening through the course of the fracture, and on the 8th of February he was discharged cured.

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63. *Nævi Materni.*—"Among the novelties of medical practice, we may mention a curious remedy for nævi materni, first employed, we understand, by Mr. Hodgson, of Birmingham, and now in course of trial by some surgeons of London. It is vaccination of the nævus, in several points of its surface by the specific inflammation of which, it is said, the nævus is arrested in its progress or caused to slough. We recommend our surgical brethren to try this easy and simple remedy.*

"We apprehend, however, that no plan will be equal to that of the ligature. If the tumour be too large for a single ligature to surround it, a needle should be passed under the centre of the nævus with a double ligature, and then the

* It has recently succeeded under Mr. Earle, at Bartholomew's.

two halves surrounded in the usual way. We believe that Mr. Lawrence ties the ligature very tight, and cuts it away at the end of 48 hours, to lessen irritation. A great number of nævi, of various sizes have been removed in this manner by metropolitan surgeons, of late, without a single bad consequence."

In one of the volumes of the Transactions of the Medico-Chirurgical Society of London, Mr. Wardrop published a paper on a natural cure which nævi materni sometimes undergo by spontaneous ulceration. He has since imitated this natural cure by applying a strong solution of oxymuriate of mercury to a nævus on a child's back; the skin ulcerated rapidly, destroying the substance of the tumour. Two cases are reported in No. 181 of the Lancet, in which a similar practice was adopted with success.—*Medico-Chirurgical Review, July*, 1827.

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64. *Excision of Carious Joints.*—The success which attended, in many cases, the removal of the protruding extremity of the bone, in compound dislocation of the shoulder, elbow, and ankle joints, led Mr. Park, of Liverpool, to believe that in certain diseases of the joints, the excision of the carious extremities of the bones might be attended with similar advantage. Accordingly, on the 2d of July, 1781, in a case of scrofulous disease of the knee, he extirpated the whole joint, removing more than two inches of the femur and one inch of the tibia. The operation was completely successful, the man, (a sailor,) returning to his business, and performing all the duties of a seaman.

In 1782, M. Moreau, (the father,) presented to the Academy of Surgery of Paris, a memoir, in which he proposed the excision of carious joints as a useful substitute, in some circumstances, for amputation. In 1786, he communicated to the Academy, "an account of an operation in which he removed the head of the humerus, and the corresponding glenoid cavity of the scapula, which were carious." "In 1789, he addressed a memoir to the same society, explaining his new method of treating carious joints;" and "on the 17th of September, 1792, he removed the whole of a carious knee joint," in the presence of Baron Percy and others. The operation was attended with success. M. Moreau, (the son,) relates* several other cases in which the operation of removing the shoulder, elbow, and ankle joints was perfomed with complete success, by his father, by Baron Percy, and by himself.

The above evidences of the advantages attending the excision of carious joints—the complete success which Baron Percy has met with, in removing the shattered extremities of the bones, in gun shot wounds of the joints—and the astonishing success that has attended the removal of the extremities of the long bones, when they have protruded through the soft parts, in compound dislocations; to say nothing of the cases of excision of carious joints, recorded by White, Bent and Orred, induced Mr. Crampton to revive the operation of Mr. Park; an operation which had not been repeated in Great Britain till performed by Mr. Crampton, on the 4th of February, 1823. The operation was successful, and Mr. C. has since repeated it in two instances. These operations if not followed by all the advantages that might be wished for, prove, at least, that the operation is a safe one, that even so large an articulation as the knee joint may be excised with safety, and give grounds for hope that, under favourable circumstances it may be attended with success. We condense the details of the cases.

Case I.—A soldier, æt. 23, of distinctly marked scrofulous aspect, with a white swelling of the right elbow joint of about ten months standing, the swelling extending at least a hand's breadth above and below the joint; suppuration over the inner condyle of the humerus, and an opening that had degenerated into a large and irregular ulcer, at the bottom of which the bone could be felt carious; health impaired; pulse 120, and feeble; far advanced in hectic fever; was sent into the general hospital, for the purpose of having his limb removed, which was considered the only means of preserving his life.

* "Cases of Excision of Carious Joints."

Thinking this a fair case for performing Mr. Park's operation, Mr. C. performed it on the 4th of February, 1823, in the presence of a great number of surgeons, in the following manner:—"the patient was placed, (as recommended by M. Moreau,) upon his belly on a table covered with a mattress, and pillows so arranged as to make his posture as little inconvenient as possible; the diseased arm hung over the edge of the table, presenting its posterior and inner surface to the operator: the brachial artery being compressed by an assistant, an incision was now made along the spine of the inner condyle, commencing about four inches above, and terminating about two inches below, its tuberosity. This incision passed through the centre of the ulceration, and laid bare the ulnar nerve, which was carefully raised from its groove, and drawn to the inner side of the incision.* A similar incision parallel to the first, was made on the outer side of the humerus, and then a transverse section, which cut through the tendon of the triceps muscle, immediately above its insertion into the olecranon, connected the two longitudinal incisions, so that the wound represented pretty accurately the letter H; the lateral incisions, however, being slightly incurvated, so as to follow the bend which the forearm made with the arm. The upper flap, consisting of the lower extremity of the triceps muscle, the thickened and diseased cellular substance, and integuments, was raised from the flat surface of the humerus, to which it had a very slight attachment; the lower flap was separated in the same manner, so as to lay bare the upper extremity of the ulna and radius; the scalpel laid on its flat surface was now pushed between the flexor muscles and the bone on its anterior surface, at the distance of three inches above the tuberosity of the inner condyle; and retained in this situation by an assistant. The saw was then applied, and the bone was divided immediately over the flat surface of the knife, which served as a protection to the muscles beneath. The separated portion of the humerus was now raised with the utmost ease by the finger and thumb of the left hand, while the capsular and lateral ligaments, degenerated to the state of a lax cellular substance, were separated by running the knife round the condyles, keeping the edge as closely as possible to the bone. The lower extremity of the humerus being removed, the articulating surfaces of the radius and ulna were completely exposed; but with the exception of the cartilage which covers the olecranon, (which was partially eroded,) every thing appeared sound. The olecranon was now removed, and the wound was sponged out; as there was no bleeding which rendered it necessary to have recourse to a ligature, the flaps were laid down, and secured to each other by four points of suture. The forearm was placed at a right angle with the arm; the wound was covered with pledgets of lint wetted with spirits and water, and the man was laid in bed, with the arm supported on a suitable pillow."

The patient passed the night well; suppuration with slight symptomatic fever, set in on the fourth day, but every thing proceeded favourably. On the ninth he sat up in a chair. The wound, however, was slow in healing, and Mr. C. sent the patient to the sea-side, five weeks after the operation, where he recovered so rapidly, that on the following week he walked to town, a distance of nearly five miles to see Mr. C. On the 18th of September "the wound, with the exception of a small superficial ulceration about the place which had been occupied by the inner condyle, was completely closed; the arm, when allowed to hang by the side, retained nearly a semi-flexed position, but by a voluntary effort he was able to give a slight degree of flexion to the forearm, so as to lessen the angle which it formed with the arm. He had the use of the fingers, so as to be able to use his knife and spoon; and on the 27th of Nov. 1823, *he signed his own discharge with the right hand.*" The constitution of the patient was so bad that an abscess subsequently formed in his loins. In what way this terminated is not known, which is to be regretted, for though

* From neglecting this precaution in M. Moreau's case, the ulnar nerve was cut across, and the ring and little finger were deprived of the powers of motion.

of no importance with respect to the success of the operation, it is of some in reference to the propriety of performing it.

Case II.—"Susan Connolly, æt. 23, of a strumous habit and emaciated appearance, marked by several scars of scrofulous ulceration, some of which are still open on the left hand and arm. The right knee is considerably enlarged, of an irregular shape, projecting much to the inner side over the head of the tibia, and measuring three inches and a half more than the sound knee, the surface smooth, white, and shining, but marked by the ramifications of large blue veins. Severe pain, much increased by pressure, or by the slightest motion, is felt through the joint: a small ulceration under the inner hamstring discharges a great deal of thin greenish-coloured matter; the joint is permanently contracted, the leg forming a very acute angle with the thigh; pulse 96, and feeble; skin rather hot; tongue white, with red edges; appetite bad; tendency to diarrhœa; gets but little rest, from the pain of the limb; catamenia not present for the last two years. Disease commenced about twelve months ago, but the contraction of the joint, the severe pain, and the alteration of her health are but of six months standing. The usual treatment had been adopted, but without even temporary relief. For the last six weeks she has had regular attacks of hectic fever, accompanied with profuse perspirations and diarrhœa, which even opium does not control."

The excision of the joint was performed in the following manner. "An incision, commencing about three inches above the outer condyle, and a little below the axis of the femur, was continued to about an inch below the head of the fibula. The acute angle, which the leg formed with the thigh, necessarily gave to this incision the form of a crescent. In making the incision the knife was carried down to the bone; a similar incision was made on the inner side of the joint. The lateral incisions were united by a transverse cut carried below the patella. The flap, thus formed, was raised by a rapid dissection, and the cavity of the joint was completely exposed: for the extent of more than three inches above the condyles the femur was without periosteum, the purulent matter lying in contact with the naked bone. At the point where the periosteum appeared to be united with the bone, the saw was applied, and the bone was divided, the soft parts being protected by a spatula which was passed between the muscles and the bone. The separated portion of the femur was now dissected out, and so slight were its connexions with the soft parts, that this part of the operation, which I expected would have been attended with some difficulty, was effected with the greatest ease. The articulating surface of the tibia was now fully exposed; it was totally deprived of cartilage, and was in a state of caries. By means of a strong and short knife, such as is used by shoemakers, I was enabled to pare away about half an inch of the head of the tibia, the cancelli of which were loaded with a lardaceous matter, and with pus.

"The cavity of this great wound was now sponged out, when upon minutely examining the cut suface of the femur, I found that the cancelli were diseased and filled with pus, and that posteriorly the periosteum was detached from the bone. I therefore sawed off about an inch and a quarter more of the femur. On placing the extremities of the femur and tibia in contact, the flap containing the patella was found to be about three inches too long, and as the patella itself was totally deprived of its cartilage, and in a state of caries, the exceeding portion of the flap including the patella, was removed by a transverse incision. No artery was divided which required the application of a ligature. The flap was retained in its position by two points of the interrupted suture, and compresses wetted in spirits and water were laid over the wound. The limb was now placed in position in one of Assellini's "carrying splints," which had previously been carefully adapted to the size and length of the limb, it extended from above the trochanter major on the outside, and from the ramus of the pubis on the inside, to about four inches below the foot, it was supplied with a sole piece, which supported the foot, and was carefully padded with a mixture of baked hair and wool."

The woman bore the operation well, the wound united by the first intention, and was healed in three weeks. On the 12th of September she was attacked with an epidemic erysipelas, which attacked the affected leg and thigh, succeeded by an abscess, which burst through the old sinus in the ham, and continued to discharge for three or four weeks and then healed. She subsequently suffered from two or three attacks of erysipelas, each of which terminated in the formation of matter. She was discharged, June 27, 1824, in very good health; but no bony union had taken place between the femur and tibia. In the winter of 1825–6, hearing that she was in bad health, and living in great poverty in a damp cabin in the country, Mr. C. had her brought to the hospital. She was in a wretched state of health—had suffered repeated attacks of hæmoptoe—had cough, with purulent expectoration and night sweats. "She had no pain in the limb, but there was a general thickening about the joint, as if the disease had been reproduced, and the sinus in the ham continued to discharge a thin whey-coloured matter. By suitable attention her health again rallied, and she returned to the country in the month of May, 1826." Shortly afterwards her health again declined, and she died in July, 1826. On examination, the posterior part of the femur, above the condyles, was found in a state of necrosis, deprived of periosteum, the walls as thin as card paper, and the medullary cells loaded with pus.

Case III.—"Ann Lynch, æt. 22, a strong, and remarkably good-looking country girl, with dark hair, blue eyes, and sallow complexion, but presenting no peculiar character of a strumous habit, was admitted into the Meath Hospital, on the 3d of May, 1823. About four years ago, she was seized with a sudden and severe pain in the right arm. The pain soon left the arm and settled in the right knee, which, from that time, continued to be, more or less, affected with severe pain, principally confined to the inner condyle. The pain was much increased by pressure on either condyle, by the slightest motion, and by the heat of the bed, at night. The joint became perfectly stiff, and a good deal contracted, so that she could only touch the ground with her toe when standing on the left leg, and the swelling which for the first few months was inconsiderable, gradually increased, and is now of a very great size, globular in its form, elastic to the touch, of a dusky red colour towards the inner side, and the surface intersected by numerous and large blue veins. She describes the pain as being excruciating, particularly at night time. Within the last two months, symptoms of hectic fever have manifested themselves, but upon the whole, her appearance is not very unhealthy. She has lost but little flesh, and the treatment, both local and constitutional, to which she has been subjected since her admission into the hospital, has abated the pain, and improved her general health."

On the 4th of August the operation was performed, as in the case of Connolly, but the patient was so ungovernable that four strong assistants could, with the utmost difficulty, retain her on the table. This necessarily prolonged the operation, and, no doubt, increased its severity. The patella, which was carious, was removed with the lower portion of the flap; but the articulating cartilage of the tibia appeared sound; the greater part of it, however, was pared away, and the semilunar cartilages, of which only the inner one exhibited any marks of disease, removed.

"The treatment was conducted, in all respects, as in the case of Connolly, with this difference, that I was obliged to resort to a variety of contrivances to keep the limb in position. The same unmanageable disposition, which caused so much embarrassment during the operation, greatly interfered with her recovery. Nothing could induce her to remain for one moment in any position which she found was attended with inconvenience, the consequence of these constant changes of position, was, that the extremity of the femur was often protruded through the wound. Notwithstanding all this, and the occurrence of a large sloughy sore on the buttock, in consequence of an insufficient attention, upon her part, to cleanliness, her general health was but little im-

paired: a small exfoliation took place from the extremity of the femur, and in about two months she was removed from her bed to a chair. In about four weeks after the exfoliation of the femur, the wound was completely healed, and the limb had acquired a considerable degree of firmness. About six months after the operation the femur and tibia were consolidated by a firm bony union, and the woman, though timid beyond all example, began to lay her foot gently to the ground, supporting the weight of her body, however, on crutches." She now went into the country; and in October, 1824, walked nearly five miles. November 3, 1826, Mr. C. examined the limb. "The femur and tibia are firmly consolidated: the leg and thigh are not in the slightest degree wasted, but the limb is considerably bowed outwards. She wears a shoe with a cork sole, four inches thick; and, to use her own expression, 'is able to stand or walk the length of a day.'"

Should Mr. C. repeat the operation of excision of the knee joint, he intends to adopt a different mode. He has satisfied himself, "from repeated trials upon the dead subject, that the operation can be most safely and rapidly executed by separating the condyles from all their attachments, previously to sawing the bone; as soon, therefore, as the flap containing the patella is turned upwards, the edge of the knife should be carried round the condyles, close to the bone, so as to divide *all* the ligaments which connect the femur with the tibia: the tibia can then with great ease be pushed backwards, and as much of the projecting condyles can be removed as the operator may think necessary." —*Dublin Hospital Reports, Vol. IV.*

We have given a very full account of these operations, although it occupies more space than we usually allot to one subject, in this department of our Journal, since we conceive the details to be of great importance in estimating the value of the operation.

The above cases have been brought forward to show the safety of the operation, a fact they sufficiently prove, even when performed under exceedingly unfavourable circumstances; but there is another question of equal importance to be decided, and that is, the expediency of performing it; and it is as bearing upon this point, that we have thought it right to give full details of the cases. These we think, make it sufficiently evident that when the patient is of a decidedly scrofulous constitution, is wasted with hectic fever, and the disease is extensive and has continued for a length of time, the relief from the operation will be but temporary, and will not compensate for the sufferings attendant on the operation; the first and second cases prove this. Under more favourable circumstances, however, the operation may, no doubt, be resorted to with advantage; as it was in Mr. Crampton's last case.

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65. *Empyema.*—A man was brought to the hospital with a punctured wound in the thorax, he had symptoms of a large effusion of blood in the right cavity of the chest, this arose from a division of one of the intercostal arteries, the artery could neither be tied nor a direct exit to the blood given, the treatment consisted in a proper position of the patient, venesection amounting to one-hundred and twenty ounces in forty-eight hours and acid nitrated drinks; a few days after the accident the patient passed large quantities of blood with his urine, and in the space of twenty-four hours was entirely relieved of all the empyematic symptoms, and was convalescent in five days.—*Bibl. Ital.* 1826.

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66. *Extirpation of the Parotid Gland.*—Dr. MANFREDINI of Modena, has performed this operation twice with happy results; the first on a countryman in whom the tumour was exceedingly large, being three inches and a half in height by twelve in circumference, involving the whole angle of the jaw, and reaching nearly to the mouth. The operation was rendered difficult from its implicating the external carotid from which it received several large vessels—ten of which were obliged to be tied; the patient recovered perfectly except a slight distortion of the mouth. The second operation was on a lady of Mo-

dena, in whom the gland was in a cancerous condition—this was also completely successful.—*Biblioteca Ital.* 1825.

67. *Lithotomy.*—Professor Giorgi appears to have been very successful in the results of his operations for the stone by Vaca's method. Of twenty-eight patients operated on, twenty-five were cured.

68. *Emphysema.*—M. Vitry relates in the Archives Générales de Médicine, for March, 1827, a case of emphysema of the subcutaneous tissue of the whole body, supervening to a convulsive cough, in a little girl twenty-six months old. M. V. gave issue to the air by numerous incisions, and thus cured the little patient.—*Annales de la Médecine Physiologique.*

MIDWIFERY.

69. *Resuscitation of apparently Still-Born Children.* By J. Tooooon, Esq. Member of the Royal college of Surgeons, London.—"Having recently met with a case of an apparently still-born child, which was recovered after an unusual length of time, I am induced to lay an account of it before the public, because from my experience in many cases, I believe a very large proportion of children, apparently dead-born, may be resuscitated, if proper means be resorted to, and persevered in for a sufficient length of time. But the modes generally employed to restore life, such as immersing the infant in warm water, friction, and pouring stimulants down the throat, are not at all calculated to produce the effect intended; and, if these means do not succeed after a short trial, all further attempts are generally abandoned. The plan I always adopt, which has never failed where the child was living during the birth, is very simple and only requires perseverance. I hope, therefore, I shall not be occupying the time of your readers unnecessarily by detailing some successful cases, under circumstances by no means favourable, which I have selected from a great many more.

"Grace White, a very weakly woman, far advanced in consumption, was seized in the morning with uterine hæmorrhage, which continued slightly till the evening, when I saw her; and, while standing by her bed-side the flooding increased with such violence that I thought it best to deliver her instantly. The child was still-born. As soon as I had removed it from the mother, and seen her safe from any immediate danger, I placed a napkin over the child's mouth, and inflated its lungs from my mouth pressing out the air from the chest afterwards, and thus imitating natural respiration. After having continued this process for thirty-five minutes, the child made a very slight attempt to breathe, and the face became slightly suffused; by persevering ten minutes longer, the free action of the lungs was established and the child cried lustily.

"The next case was that of a poor woman, named Sarah Holmes, of the parish of Spaxton, who had been in labour a long time with a presentation of the arm, and as it was her first confinement, it became very difficult to turn the child, particularly as she was advanced in age, and the parts were very rigid. The child was still-born; but, by pursuing the same plan actively for three-quarters of an hour, animation was perfectly restored.

"The next was a case of presentation of the funis; and, as the labour was slow, the child was still-born, but recovered by the same means in half an hour.

"The last case with which I shall trouble you was such as to encourage the attempt at resuscitation under any circumstances. It was a case of twins, and the second child presented with the head, before which a considerable portion of the funis had descended. The delivery was extremely slow, from the general weakness of the woman, who had been for a long time in a bad state of health, and the child was apparently born quite dead. As the mother's situa-

tion was extremely critical, more than half an hour had elapsed before I could attend to the child, and, on inquiry, I found it had been wrapped in a cloth, and placed on a chair in another room. I immediately made the attempt to restore it, and, by persevering steadily for twenty-five minutes, I had the satisfaction to see symptoms of returning life, and in about fifteen minutes more the child breathed freely.

"Every thing in this last case was unfavourable to the restoration of the child—the mother's long-continued disease, the circumstance of her having two children, and more particularly the delay which took place before any attempt was made, during which time the child was exposed in a room without fire in the winter, with a partial and very slight covering.

"I am warranted by my own experience in recommending the attempt to restore all still-born children who have been alive during the birth, and if the means of resuscitation above mentioned be actively employed and steadily persevered in, I believe the majority of cases will be successful. In all cases the restoration of a child is a most satisfactory circumstance, and in some instances of the greatest possible consequence. I have never found any thing necessary but the regular inflation of the lungs, which I do with my own mouth, in the way I have described, and have generally observed the first symptom of returning life to be a tremulous motion of the respiratory organs; the child next makes a very feeble attempt to inspire, and the colour of the face changes. The inflation should then be made quicker; and, as the attempts to breathe increase, a little sal volatile or brandy, rubbed over the palm of the hand, and held over the mouth during the inflation of air, will materially assist the recovery, and has a better effect than pouring stimulants into the stomach. A few smart slaps on the glutei muscles will now generally complete the recovery." —*Lond. Med. and Phys. Journ. August*, 1827. The author appears to think that the above method of resuscitating still-born children is novel. Dr. Dewees has been in the habit of employing it for nearly forty years. Vide Syst. of Mid. He relates also in his lectures cases of resuscitation as remarkable as the above.

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70. *Successful Case of Transfusion in Uterine Hæmorrhage.*—In the July No. of the *London Medical and Physical Journal* another successful case of transfusion in uterine hæmorrhage is related by Mr. Douglass Fox. The patient was greatly debilitated by the flow of blood, the fœtus at the sixth month being expelled, and the placenta retained by an hour glass contraction. The hæmorrhage was arrested by the introduction of the hand into the uterus, and the placenta removed. But though the hæmorrhage had ceased, Mr. F. thought "there was every reason to apprehend the immediate dissolution of the patient from extreme exhaustion, as in this stage of the complaint she had become totally unable to articulate, to move, or to swallow; the pulse at the wrist was imperceptible, and the general appearance of the patient wore the aspect of death." Blood was injected into a vein of the arm, and the patient eventually recovered.

[The expedient of transfusion revived by Mr. Blundell, has been resorted to, within the last two years, in nearly a dozen cases, in most of which the patients are said to have recovered. We do not hesitate to believe these accounts, but we very much doubt whether the patient would have died, had the remedy been withheld. We believe this principally upon the following grounds. 1st. Because women bear excessive losses of blood without death following. 2d. Because the quantity of blood transmitted to the alien veins, does not appear sufficient to prevent death, since but a very few ounces have been declared to answer. 3d. Because the additional quantity of blood, though it increases by so much the stock of the patient, does not necessarily or contingently promote the tonic contraction of the uterus, without which, all "appliances and means to boot," will be found unavailing. 4th. Because we have never yet met with a case, where the dormant powers of the uterus could not be roused into successful action, if means were timely employed; were of a proper kind; and properly conducted. W. P. D.]

MEDICAL JURISPRUDENCE.

71. *On the Detection of Hydrocyanic Acid in the Bodies of Animals poisoned by it.*—M. M. Lassaigne and Leuret, some time since pointed out an extremely delicate test to detect the prussic acid in the bodies of poisoned animals, namely, the persulphate of iron or the persulphate of copper. Being desirous of ascertaining after how long a period the poison might be discovered, these gentlemen have since made experiments in which "animals were killed by hydrocyanic acid introduced into their food, or thrown into the stomach in a diluted state, the dose never surpassing more than an equivalent of five or six drops of the pure acid, or less than two drops: the animals were left after death for twenty-four hours in a chamber, and then buried in moist earth a foot and a half or two feet deep.

"The disinterment took place after various periods, from fifteen days to a month, and the stomach and the first portions of intestines being separated, were well divided and mixed with pure water, and distilled; a little sulphuric acid was added to the substances in the alembic, and the recipient was cooled by ice and water.

"The products were rendered slightly alkaline, and then tested by the persulphate of iron or sulphate of copper, and a little excess of muriatic acid was poured upon the precipitates occasioned by these salts. No prussic acid could be discovered in animals, the viscera of which were in a state of complete putrefaction; it was found after intervals of two or three days, but never after a longer period than eight days.

"From these experiments it appears, 1. That prussic acid cannot be discovered in animals poisoned by small quantities of it after exposition of these bodies for two or three days to the air. 2. That the disappearance of the poison in the viscera after a longer period than this is due to its decomposition, which is favoured by the contact of the putrescent animal matter. 3. That when it is necessary to examine a body judicially, to ascertain the presence of this poison, it is important that it should be done as quickly as possible."—*The Quarterly Journal of Science, Literature, and Art, from the Journ. de Chimie Méd. Dec.* 1826.

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72. *On the Detection of Antimony in Mixed Fluids.* By Edward Turner, M. D. &c.—Many reagents decompose tartar emetic, and cause precipitates in its solutions. Of these the principal are alkaline substances; the stronger acids, as the muriatic and sulphuric; the infusion of gall-nuts and sulphuretted hydrogen. Dr. Turner thinks that the last of these is the only one sufficiently delicate, certain and precise, to be entitled to confidence. On transmitting the sulphuretted hydrogen gas through a fluid containing antimony, the solution will acquire an orange colour, which can scarcely, he says, be mistaken for that of any other metallic sulphuret, by a person acquainted with its appearance. Its colour is quite different from that of orpiment, or of the bi-sulphuret of tin; and from the sulphuret of cadmium, to which it bears a greater resemblance, it is distinguished by its ready solubility in a solution of pure potash. The sulphuretted hydrogen merely indicates the presence of antimony,—without directly showing in what state it existed. This is of little consequence, however, in judicial cases, as all soluble antimonials are poisonous. Dr. Turner gives the following directions for the use of the test. "The fluid supposed to contain tartar emetic, should be mixed with a drachm or two of muriatic and tartaric acids, boiled for a few minutes to separate any substance coagulable by heat, and then allowed to cool, and filtered. The liquid should next be exposed to the action of sulphuretted hydrogen, and boiled to expel the excess of gas; after which the sulphuret will subside, if tartar emetic had been present." To obtain the metal in a separate state, Dr. T. recommends that the sulphuret obtained in the above manner, be placed in the middle of a glass tube about three inches long, and a quarter of an inch in diameter. "One end

of the tube is connected by means of a cork with a vessel from which hydrogen gas is evolved, and to its other extremity is adapted a bent tube, which opens under water, so as to conduct away the hydrogen, and at the same time exclude atmospheric air. After the air within the apparatus has been expelled, heat is applied by means of a spirit lamp to the part of the tube on which the sulphuret is placed. The decomposition of the sulphuret commences at a temperature by no means elevated; but in order to render it complete and fuse the antimony, the glass should be made red hot, and kept in that state for five or six minutes. The temperature at the close of the process may with advantage be increased to bright redness by the use of the blow-pipe.

"The appearance of the metal within the tube depends upon the manner of conducting the experiment. If the sulphuret had been placed in a heap, the metal is found partly in a spongy state, and partly in minute globules; but if it had been diffused over a considerable space, no globules appear, and the metallic lustre is indistinct. The metallic nature of the spongy mass may, in general be brought distinctly into view by placing it on a piece of white paper, and pressing it with the nail or the blade of a penknife.

"The results also depend on the velocity with which the hydrogen is transmitted through the tube. If the gas passes rapidly, some of the metal is hurried off at the moment of separation from the sulphur, and is deposited within the tube as a metallic film, which is sometimes very distinct. If, on the contrary, the passage of the gas is slow, this appearance does not take place.

"By means of this process, I have succeeded in procuring from the tenth of a grain of the sulphuret metallic antimony, the lustre of which could be distinctly seen with the assistance of a lens.

"Should a considerable quantity of animal or vegetable matter subside with the sulphuret, the metallic antimony will then be so mixed with charcoal that its lustre cannot be seen distinctly. In a case of this kind the mixture should be placed in an open tube, and heated to redness by means of a spirit lamp. The antimony is then oxydized, and the oxide, which attaches itself to the cool parts of the tube in form of a white powder, may be recognised by its appearance and volatility."—*Ed. Med. and Surg. Journ. July*, 1827.

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73. *On Poisoning with the Sulphurets of Arsenic.*—"Several memoirs have lately appeared in the Parisian journals on the subject of poisoning with the sulphurets of arsenic; and as they explain some facts which have long appeared unintelligible, we shall present a condensed view of the whole. Till very lately it was believed, that, as the artificial sublimed sulphurets are much more poisonous than those of natural origin, some essential difference existed between them in chemical composition. M. Guibourt, however, has completely shown the cause of the differences in their physiological effects. For he has found that the artificial sulphurets always contain a large proportion of oxide of arsenic, sometimes so much as ninety-six per cent. This observation has been more recently confirmed by M. Courdemanche; and we may add that we have seen the cakes of sublimed orpiment lined on their concave surface with octaëdral crystals of the oxide. M. Guibourt, on the presumption arising from this difference, and from the known harmlessness of arsenic in its metallic state, ventured to hint, that the proper sulphurets, such as the native sulphurets, and that procured by transmitting sulphuretted hydrogen through a solution of the oxide, are not deleterious. But Orfila has contradicted this statement by positive experiments. He found that when forty, sixty, or one hundred and twenty grains of the pure artificial sulphuret procured by precipitation, or of the native orpiment of Hungary, or the native realgar of Transylvania, were introduced into the stomach, or into the cellular tissue of dogs, death took place in two, four, or six days, under the usual symptoms of poisoning with arsenic. It is certain, therefore, that the sulphurets of arsenic, when perfectly pure, are poisonous; but they are much less so than the oxide. Their poisonous power appeared a remarkable and anomalous fact, considering that metallic arsenic has been proved

not to be poisonous in its pure state, or when alloyed with tin, or when combined with iron and sulphur in the ore mispickel or arsenical pyrites. But the anomaly has been accounted for by M. Courdemanche, who finds, (Jour. de Pharm. May, 1827,) that if the pure sulphuret of arsenic be boiled even in distilled water, a part of the water is decomposed, sulphuretted hydrogen is evolved, and the white oxide of arsenic is formed and remains in solution—that this change takes place in the cold, but much more slowly—and that it is very much accelerated by the presence of vegetable or animal principles in the water. In all likelihood, then, the sulphurets are poisonous merely because they are in part converted into the oxide. These observations will also account for the statements of Hahnemann regarding the solubility of the sulphurets of arsenic in water. They are insoluble as sulphurets, but will lose weight by boiling, because they are decomposed."—*Ed. Med. and Surg. Journ. July, 1827, from the Journal de Chimie Médicale et Journal de Pharmacie, passim.*

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74. *Poisoning by Phosphorus.*—"On the 24th of April, 1824, a young man, twenty-eight years of age, swallowed half a grain of phosphorus mixed with very hot water. Feeling no effect, he took three days after a grain and a half in the same vehicle at a single dose. He breakfasted almost immediately after, and experienced no remarkable symptom till five, when he had no sooner swallowed some food than he complained of violent pains of the stomach and belly. These were soon followed by incessant and painful vomiting, and abundant discharges from the bowels during the night. On the following day these symptoms were aggravated by violent contractions of the belly. Emollient injections produced neither excretion nor relief. The patient, however, followed his ordinary pursuits; and it was only on the 4th of May, (after a full week,) that he communicated to M. Worbe the circumstances of his complaints. The epigastrium was then extremely painful to the touch, the abdomen was very tense, and its muscles strongly contracted; and he was unable to continue out of the horizontal posture. The features had an expression of sadness, languor, and wavering; the eyes were heavy, and the conjunctiva and skin of a strong yellow tint. The respiration, however, was natural, the pulse was only a little hard, and the tongue and mucous membrane of the mouth were unchanged. *Membra generationi inservientia nequaquam affecta.* The remedies were leeches to the epigastric region, the warm bath, fomentations, and emollient cataplasms, mucilaginous injections, and for drink gum solution in abundance. The leeches were not applied till noon. At ten in the evening the patient was delirious, convulsed, and unmanageable, but carried his hands instinctively to the epigastric region. A physician summoned at seven the next morning ordered to each elbow fifteen leeches, which procured a good deal of blood. M. Flourens, introduced by M. Worbe, recommended leeches to the head; and they were accordingly applied. The condition of the patient, however, became hourly worse. The urine escaped involuntarily; the alvine discharges became frequent and copious, with flabbiness of the muscles; the beats of the heart became weak, and those at the wrist were no longer perceptible. The surface, which was now intensely yellow, became covered with a cold sweat, which was most abundant on the forehead; the extremities became cold; and death took place at three in the morning of the 6th, the second day of his application to M. Worbe.

"The external appearances after death were, yellow tint of the skin, the cutaneous veins of the belly and upper part of the thigh prominent, and the skin of these parts checkered with livid spots, sugillations, and venous impressions. The scrotum was bluish and phosphorescent, according to the observation of M. Bogros. The chest contained much blackish serous fluid; the lungs were gorged with blood; the heart was soft, collapsed, and contained little blood. The muscular tissue only of the stomach was inflamed; the other membranes of the stomach and duodenum were pale and flaccid, and gas was developed in their submucous cellular tissue. The cardiac and pyloric orifices

presented black or rather slate-coloured patches, which might be compared to the blood-shot spots seen on the conjunctiva. All the intestines were tympanitic, but contained little fluid. The bladder was sound, and contained four ounces of urine. Permission to examine the brain could not be obtained.

"M. Worbe and M. Bogros killed two dogs, one of seven the other of eighteen pounds weight, by giving the first half a grain, and the second a grain and a half of phosphorus dissolved in hot water. In the former dog the cardia and pylorus presented the black spots observed in the stomach of the subject above mentioned, but the brain and its appendages were sound. In the second several ecchymosed spots were found in the cellular fat, contiguous to the base of the ventricles of the heart, and the surface of the auricles. The villous membrane of the alimentary canal, especially that of the stomach, was folded or contracted, and easily detached; and the tube was abundantly filled with blackish matter, as far as the cœcum. The veins of the brain were filled with black blood; the membranes were injected and the pia mater was ecchymosed."—*Ed. Med. and Surg. Journ. July*, 1827, *from the Mém. de la Soc. Med. d'Emulation, Tom. IX.*

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75. *Rupture of the Cœcum.*—James Burn, a strong and muscular man, wrestling with a neighbour, after a severe struggle succeeded in throwing his antagonist, who fell on his back, with his knees bent upwards, and Burn fell nearly at the same moment with his abdomen on his antagonist's knees, receiving a violent contusion, chiefly in the region of the umbilicus. According to his own account, he felt as if something had given way internally; he fainted immediately, but soon recovered, complaining of severe pain in his abdomen, with vomiting; he died forty-eight hours afterwards.

On examination, Mr. Speer observed the following appearances:—"the abdomen being opened, a quantity of the contents of the intestines was found in the cavity, and when pressure was made over the large intestines with the hand, their contents were forced through an aperture in the intestines; and on further examination, the cœcum was found ruptured. The aperture was about two inches in circumference, with uneven ragged edges, and evidently the consequence of the fall he had received; it was surrounded with marks of extensive inflammation, as were all the small intestines, on whose surface several layers of coagulable lymph had been deposited in different places, forming a false membrane of a soft texture."—*Dublin Hospital Reports, Vol. IV.*

CHEMISTRY.

76. *On the Composition of certain Black Vomitings, and their Analogy with the Black Matter of Melanosis.*—"M. Lassaigne has lately analyzed with great care the black matter vomited in a case of scirrhous ulceration of the stomach, and has found that its colour, as was conjectured by M. Breschet, is owing to blood, altered in its properties nearly in the same manner as in melanosis. The patient had long been evidently affected with scirrhous of the stomach, was seized latterly with profuse vomiting of a black fluid, and after death the whole pyloris was found scirrhous and ulcerated, with an aperture communicating with the cavity of the third curvature of the duodenum.

"The matter vomited had a chocolate brown colour, and held in suspension darker coloured flocks, which gradually fell to the bottom, leaving a reddish-brown fluid, resembling a solution of altered blood. The fluid was acid, but gave, by distillation at a low heat, a very alkaline liquid containing much ammonia. The residue was strongly acid, gave out much ammonia with potash; yielded to alcohol a solid acid possessing the properties of the caseic acid procured by Proust from old cheese,—a fluid acid which M. Lassaigne pronounces to have been the lactic, but which, according to the late corrections of Berzelius, the discoverer of that supposed acid, must have been modified acetic

acid—and a little osmazome; and the residue after the action of alcohol consisted of a principle intermediate according to M. Lassaigne between mucus and albumen, but which, from the properties he mentions, appears to have been casein. The dark flocculent matter was evidently altered blood, for weak sulphuric acid acquired a reddish-brown colour when gently heated with it; the solution yielded with ammonia reddish-brown flocks, which, when dried, resembled exactly the dry colouring matter of the blood; the alkalis acted on the original flocculent matter as on blood, and when incinerated, it gave distinct indications of the presence of oxide of iron and phosphate of lime.

"The analogy between the sediment of the matter vomited in this case, and the black matter of melanosis, is therefore very great. The presence of the caseic acid has not to our knowledge been remarked in any of the natural solids or fluids, and consequently, as M. Lassaigne suggests, it appears to be a pathological formation."—*Journal de Chimie Médicale, Sept.* 1826.

77. *Chemical Analysis of the Serous Fluid of a Blister.* By M. BRANDES and BIRMANN.—The results of this analysis are as follows:—

"Albumen, coagulable by heat, insoluble afterwards, and bearing some similarity to fibrine	5.25
"Albumen soluble in water	0.50
"Carbonate of soda, lactate of soda, hydrochlorate of ammonia, hydrochlorate of soda, phosphate of lime, sulphate of soda, and salts of potash, combined with an animal matter, precipitated by tincture of galls	0.26
"Water	93.99
	100.00

"Its composition is therefore the same with that of other serous secretions."—*Bulletin des Sc. Méd. from the Archiv. des Apotheker.*

MISCELLANEOUS.

78. *Speranza's Clinical Reports.*—Dr. SPERANZA, Clinical Professor in the University of Pavia, gives the result of his practice in that institution. Of one hundred and fifty-three admitted, the mortality was nine and one-nineteenth per cent.; if there be deducted those who died from accident, and in consequence of incurable chronic disorders, the proportion would be six per cent. He also details at some length his mode of treatment in fevers. In intermittents occurring in the spring, he used bleeding and general evacuants; in those of the autumn, emetics; and afterwards sulphate of quinine. He divides continued fevers into three classes: those of the sanguine system, (synocha,) of the gastro hepatic system, (bilious,) and of the nervoso cephalic, (nervous;) the first class he treated by venesection, the use of tartar emetic, digitalis, purgatives, and contra-stimulant drinks, the second class were treated by general bleeding, leeches to the hypochondrium, purgatives, and acid drinks—his treatment in the third class is not given.—*Bibl. Ital.* 1826.

79. *Baron de Ferussac's new work.*—M. DE FERUSSAC, editor of the Bulletin des Sciences has just finished a work, presenting the complete statistics of all the journals of the civilized world, from the invention of Printing to 1826, including also the learned and literary societies of all parts of the globe.—*Foreign Quarterly Review, July,* 1827.

80. *New Editions of the old Medical Writings.*—The study of the old Medical writers has of late much increased. Besides a collection of the Greek writers, began in Leipzig, in 1821, and which has reached its 16th volume, a society in Paris has undertaken a similar enterprize, but embracing a wider range,

as it not only includes the Greek and Latin authors, but also the Arabic, those classed under the denomination *Latino-barbari*, and a selection of the principal modern works which have been written in Latin; the whole to form a collection of one hundred volumes.—*Ibid.*

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81. *Anatomical Cabinet of the University of Moscow.*—The rich anatomical cabinet which the deceased Emperor Alexander purchased of the Privy counsellor Professor Lodor, for ten thousand roubles, belongs now to the University of Moscow.—*Ibid.*

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82. *On the changes which the laws of Mortality have undergone in Europe within the last half century, or from* 1775 *to* 1825. By M. Benoiston De Chateauneuf.—According to the calculations of several philosophers, who investigated the laws of mortality, and the probabilities of the duration of life during the last century, the following facts have been considered as sufficiently established:—

"1st. In a growing generation, the half died in the first 10 years of existence, and even sooner.

"2d. Three-fourths had perished before fifty years, and four-fifths at 60; or, in other words, of 100 individuals, 15 only arrived at this age.

"3d. From 80 to 100 years, none remained: a whole generation had run its course.

"4th. The general proportion of deaths was determined to be as 1 to 32, and that of births as 1 to 28.

"5th. It was reckoned that there was 1 marriage in 110, or 115 individuals, and that the degree of fecundity was pretty accurately represented by 4 children for each couple, although at the same time, this, as well as all the other relations, was liable to vary according to the places. In Spain and Italy, there were only 2 children from each marriage; in France and Russia 4; from 6 to 8 in Germany, and from 8 to 11 in Sweden."

Such were the laws to which the course of human life in Europe were subjected about half a century ago. Since then facts have increased and become more accurate—great political changes have taken place—civilization and the arts of industry have advanced with rapity; and it is interesting to examine what has been their influence upon human life.

"At the present period, 1825, of a certain number of children born in Europe there dies, in the first 10 years, 38.3 in 100, in place of 49.9 which formerly died.

"From birth to 50 years, 74.2 were found to be extinct. At present the proportion of dead to living, in the same period of time is not more than 66.

"Lastly, 23 persons in 100 now arrive at 60, in place of 18 who attained that age half a century ago.

"These proportions are mean terms; taken separately they become still more favourable. Thus in France the proportion of those who survive at 60 years is 24.3 in the 100, while formerly it did not exceed 14.7.

"These results, sufficiently remarkable of themselves, gave rise to others which are not less so.

"From the 40th degree of latitude to the 65th, that is to say, upon a line which extends from Lisbon to Stockholm, embracing an extent of about 1000 leagues, and in a population of 65,000,000 of individuals which is comprehended by Portugal, the kingdom of Naples, France, England, Prussia, Denmark, and Sweden, the proportion of deaths is 1 in 40.3, that of births 1 in 30.1; that of marriages 1 in 123.3; and the fecundity, 4 children by each marriage.

"On comparing these relations with those of the last century, we are struck with the difference which exists in the actual mortality of early life at these two periods, a difference which is not less than between 38 and 150.

"This difference would itself suffice to attest the happy effects of vaccina-

tion, to which they are partly owing; but it also proves a great amelioration with respect to the cares bestowed on childhood; and those cares themselves indicate a greater prosperity and an improved condition in families. If we now reflect that it was especially in the lower classes that the mortality of children was enormous, we may conclude, that if these classes loose fewer at the present day, it is because they are in a better state for taking care of them, and bringing them up.

"Nor is it less evident also, that if these same causes, as well as some others, had not extended their influence beyond the years of childhood, they would only have had the melancholy advantage of delivering over to death a greater number of victims in the stages which follow. The contrary, however, takes place, and at the present day more individuals attain the 50 and 60th year than formerly. The action of these preserving causes of childhood must therefore continue to operate upon the grown up person during the remaining part of his career; and these preserving causes are an improved state of society.

"Marriages were formerly in the proportion of 1 in 110 individuals; they are now in that of 1 to 123. This, which is a mean term, is even too high for some countries. In France, where according to the calculations of Necker, there was 1 marriage in 111 individuals, there is only reckoned 1 in 135.

"The natural consequence of the diminution of marriages is that of births. This diminution is always proportional to the increase of the population; for while the proportion of marriages to it has fallen from 110 to 123, and that of births from 28 to 30, it is yet remarked that the one and the other are augmented in a certain degree.

"The fecundity would appear to have remained the same. In the present century, as in the last, the numerical expression which represents it is always four children for each marriage. But this proportion is undoubtedly not the true one, since we are obliged to include among the births that of the illegitimate children from the defect of proper distinctions in the accounts of births, especially in foreign countries. In France, the exact proportion of births to marriages is 3.9.

"The marriages as well as births have diminished in Europe within these 50 years, and yet the population is seen to increase. This apparent contradiction is explained by another fact, the very great diminution of the proportion of deaths. There was formerly 1 death in 32 individuals, there is at present 1 in 40.3. This diminution of the mortality bears chiefly upon the earlier stages of life. There are, on the one hand, more newly-born individuals that survive, and on the other more adults that grow old.

"The necessary result of this latter state of things, is the prolongation of the middle period of life, which appears in fact to extend beyond the limits within which it was formerly confined.

"From all that has been stated, it would appear that the laws of mortality, such as they were established 50 years ago, have since that period undergone the following modifications:

Mortality of the Different Ages.

	Old State.	New State.
From birth to the age of 10,	50 in 100	38.3 in 100
50,	74.4	66.0
60,	83.0	77.0
Proportion of deaths,	1 : 32.2	1 : 40.3
births,	1 : 27.7	1 : 30.1
marriages,	1 : 110.4	1 : 123.3
Fecundity,	4.0	4.0

"This table, without doubt, contains errors, owing to the incorrectness of several of the accounts given."

The following is the state of the population of France, such as it was at the time of Necker, in 1780, and such as it is at the present day in 1825, according to the Annuaire du Bureau des longitudes for the year 1826.

	Old State in 10 years. Population. 24,800,000 inhabitants.	New State in 7 years. Population. 39,400,000 inhabitants.
Deaths,	818.490	261.230
Births,	963.200	957.970
Marriages,	213.770	224.570
Natural Children,	20.480 (1-47)	65.760 (1-14)

Mortality at Different Ages.

	Old State in 10 years.	New State in 7 years.
From birth to the age of 10,	50.9 in 100	43.8 in 100
50,	74.4	67.5
60,	81.0	75.6
Proportion of deaths,	1 : 30.2	1 : 39.9
births,	1 : 25.7	1 : 31.7
marriages,	1 : 111.3	1 : 135.3
Fecundity,	4.4	3.9

Edinburgh New Philosophical Journal, Oct. 1826."

Since the above summary of M. Benoiston de Chateauneuf's memoir was written, we have received the first number of the *Foreign Quarterly Review*, which contains a notice of a work, published last year in Paris, entitled "Discours sur les Améliorations Progressives de la Santé Publique par l'influence de la Civilization. Par F. Berard." From this review we will present some additional particulars respecting the influence of civilization on public health.

"Life and health are not absolute and stationary quantities, but variable, and their variation depends upon a number of circumstances—on proper nourishment—on clothing—on fit habitation, as protection from the elements—and on mental and personal tranquillity; all these are best acquired and best ensured by civilization, and most uncertain under barbarism, or if that phrase pleases better, under a state of nature."

"Whenever we find man near that state of nature which is so largely expatiated on, and so ardently desired, in the dreams of Rousseau and Monboddo, we invariably observe him surrounded by circumstances unfavourable to existence, and debased in mind while he is weakened in frame. If we turn to the relation of any newly discovered country, we find that the face of the land is darkened by immense tracts of forest: large masses of water stagnate on the earth, the very air is filled with noxious and pestilent vapours, ferocious and venomous animals abound, and the poor savage in his boasted state of nature, is like a straw in the whirlpool; the want of means to combat against the evils which surround him never fails to weaken the vital forces, so that longevity amid savage nations is not only rare, but savages in general are more feeble than civilized nations. Le Père Fauque, who lived much among them, says he scarcely saw an old man; Raynal asserts the same of the savages of Canada; Cook and La Perouse of those of the north-west coast of America; Mungo Park of the Negroes; and Bruce of the Abyssinians."

"Will it be said then that civilization is a cause of degeneracy; and that those means which alone provide the body with constant and suitable food and clothing—which convert marshes into pasturage, forests into fields—which purify the air and remove all that is noxious in the vegetable and animal kingdoms, while they foster all which is good for man—that the means which effect these are the very causes of disease and death, of degeneracy of frame and

imbecility of mind? They who are willing to adopt this creed, must, if consistent, prefer ancient Gaul to fertile France—Britain in the times of Cæsar and Agricola to England in our own—modern Egypt to Egypt the mother of science, and abounding in wealth and fertility. It is not Egypt only which may be adduced as an illustrious example of our argument, that population, and consequently health, is increased by civilization, and that with barbarism depopulation invariably takes place; modern Greece, with its islands, Asia Minor, and Spain, are no less striking proofs. In the sixteenth century, in the time of Ferdinand and Isabella, Spain was the very model of Europe. Her soil was rich, her sons proverbially chivalrous, her language was the language of courts; commerce and the arts flourished, and her population amounted to twenty-four millions. *(Robertson's Charles Vth.)* From that period may be dated the commencement of her degeneration; she has now become the most barbarous power in Europe, with a population of ten millions at most.

"On the other hand, her neighbours have been progressively advancing in civilization, and they present therefore a progressive scale in the advance of population.

"In 1688 the population of England was	5,300,000
1792 - - - - - - -	8,678,000
1803 - - - - - - -	9,168,000
1822 - - - - - - -	12,340,000

a population considerably more than doubled in the space of 134 years."

"1700 the rate of mortality in *London*, was	1 in 35
1801 and till now	1 in 38

a benefit therefore of thirteen individuals, or one-half.

"The rate for *Great Britain* was,

From 1785 to 1789 - - - - -	1 in 43.6
1790 to 1794 - - - - -	1 in 44.7
1795 to 1799 - - - - -	1 in 46.5
1800 to 1804 - - - - -	1 in 47.4

"For *England*,

In 1780 - - -	1 in 40	In 1800 - - -	1 in 47
1790 - - -	1 in 45	1810 - - -	1 in 50

so that in the short space of thirty years the mortality for England has been diminished one-fourth; a prodigious result, which can only be accounted for by the rapid strides the country has made, and is still making, in civilization. *Berard*, p. 49, *(quoted from Heberden.)*

"In the first half of the eighteenth century the proportion of deaths to births in *London* was as 3 to 2; in the last half as 5 to 4; and since 1800 the number of deaths is less than that of births as 12 to 15.—*(Berard*, p. 49.*)*

"In *Sweden*, the mean mortality of twenty years, from 1775, to 1795, was 1 in 37, instead of 1 in 35, as in the twenty years preceding. During this period the births did not increase—it follows, therefore, that individual life had become longer.—*(Berard*, p. 50.*)*

"In *France*, in 1780, the deaths annually were 1 in 30; during the eight years from 1817 to 1824, 1 in 40, nearly one-fourth less. From the census of the population which was taken in 1817, it appears that the average annual difference between the deaths and the births for these eight years, is nearly 200,000 in favour of the latter. Nothing can be a stronger proof of the favourable change in the law of mortality which has taken place in France.

"On the whole, then, it may be said, that one of the main causes of difference in population among nations is the difference in civilization; and it is a curious confirmation of the fact, that in European nations the mortality is greatest in those classes of society which are the poorest, and which therefore approach nearest to the state of uncivilized people in barbarous countries."

Dr. Villermé, in several memoirs on the relative mortality of the wealthy and indigent classes, at Paris, has stated some interesting facts respecting the relative mortality of the twelve arrondissements of Paris. The mortality in the different arrondissements varies from 1 in 43, (the mortality in the 12th arrondissement;) to 1 in 62, (the mortality in the 2d arrondissement.) This difference in the ratio of their mortality, was attempted to be accounted for by the local influences—by their water—by the density of their population; none of these would, however, explain the circumstance. Dr. Villermé then tried if it could be accounted for by their comparative indigence, and he found that by arranging the districts in one column, in the order of their mortality, and in a second, in the order of their poverty, that the order in the two columns, with one single exception, was the same; the mortality being greatest in the poorest.

"Among barbarous nations and the poor of civilized ones, acute diseases produce the mortality. Among the better classes of civilized nations, chronic maladies abound. There is one appalling fact which we must adduce in support of our assertion, that mortality is greatest among those who suffer the greatest privations, we allude to the mortality among slaves. In America, it was observed that a very large importation of slaves speedily required renewal, so much did the deaths predominate over the births. According to Hufeland, 'Art of Prolonging Life,' p. 165, one-sixth of the negroes perished in the West Indies annually, 'a result which is only paralleled,' he adds, 'by the ravages of the most inveterate pestilence.' The births among the *free negroes* of Martinique and Guadaloupe were four in a hundred, among the *slaves* two in a hundred."

The exercise of intellect, and a due activity in the functions of the brain, tends greatly to procure sound health and quiet days. "Hufeland in the work already cited, says, there is no instance of longevity in a professed idler. The truth is, that he who is occupied on subjects requiring thought, has not leisure to be intemperate. But independent of the protection which mental occupation gives against excess of all sorts, still there is much truth in the assertion, 'qu'on meurt de bêtise.' From all consistent analogy we must infer that the most important organ of the body, the brain, must have a great influence in the vitality of the frame. If any other organ ceases to perform its function, it immediately decays, and the constitution sympathises more or less with the local injury; if a limb is not used the muscles shrink and the bone becomes soft; so that no axiom in physiology is clearer, than that the performance of the function of an organ is necessary to the health of that organ. So much for the theory of the thing. But facts show that they who have exercised their brains have usually attained to a good old age. Of one hundred and fifty-two *savans* taken at hazard, one half from the Academy of Belles Lettres, the other from that of Sciences of Paris, it was found that the sum of years lived among them was 10,511, or about sixty-nine years to each man. And M. Brunaud has shown, in his 'Hygiène des gens des lettres,' that literary men have, in all climates and times, usually been long-lived."

AMERICAN INTELLIGENCE.

Case of Hydatids of the Uterus, successfully treated by the Ergot, by W. D. Macgill, M. D. *of Hagerstown, Maryland, communicated in a letter from* Mr. J. W. Anderson, to Dr. Dewees.—"I take the liberty of writing to you, to state, though not very minutely, the result of a case of hydatids of the uterus which came under the observation and treatment of my much respected preceptor, Dr. W. D. Macgill, of this place. And I the more readily communicate this case to you, as you have expressed your intention of making use of the remedy which was employed in this instance, if an opportunity presented itself. It therefore gives me much pleasure in writing this letter, which I flatter myself will not be unacceptable, as it so completely confirms, as far as one case can do, your sentiments in regard to the treatment of this disease.

"Early last spring Dr. M. was called to see Mrs. W. aged forty years, who had previously enjoyed good health, and had been the mother of several healthy children. She was labouring under a very painful affection of the womb, accompanied with periodical hæmorrhagy, occurring once in twenty-four hours, usually in the evening, accompanied with febrile symptoms, and much disturbance of the digestive functions; and which was evidently making rapid inroads upon her constitution. During its further continuance her stomach became exceedingly irritable, so much so indeed as scarcely to retain nourishment of any description. Dr. M. addressed his remedies principally to the restraining the hæmorrhagy, and obviating the excessive weakness of the stomach. But notwithstanding the symptoms continued to increase in violence, so much so as to endanger the life of the patient. She had become very much exhausted by the repeated loss of blood, and inability to take nourishment, (for she had now suffered for more than three months,) when the doctor made an examination, per vaginam, (after having made them frequently before without any satisfactory result,) and discovered something protruding through the os uteri, which he extracted, and found that the poor woman was labouring under hydatids of the womb. He immediately sent for the *ergot*, judging from analogy that it would prove decidedly effectual in producing an expulsion of the heterogeneous mass. The event proved that he was not mistaken in his conjecture, for he had given the ergot but a very few minutes when it began to show its specific operation upon the uterus, and soon ended in a complete evacuation of its contents. The mass of hydatids equalled in size the head of a large child at birth, and afforded a very good specimen of the disease, a part of which we have made a preparation of. The representation in your book on the "Diseases of women," is admirable. The floodings immediately ceased, and did not return. The woman rapidly recovered, until she has at length attained her former health and vigor, and I believe she is again pregnant. She says her mother died of a disease exactly similar.

"P. S. Dr. Macgill had not heard of your suggestion until after the delivery. He was led to the employment of the ergot solely from analogy."

[The above case is highly interesting, as the remedy employed was entirely successful in this most distressing complaint. I feel much indebted to the ingenious young gentleman who has favoured me with it, and beg his acceptance of my thanks. The allusion above is to what I had suggested in my treatise on the diseases of females, when speaking of the hydatids of the uterus.*

* I observe, "we would propose, and we think with a fair prospect of success, the free use of the secale cornutum in this complaint, to procure the expulsion of the Hydatids; especially in such cases as would not freey admit the hand; or where the contractions of the uterus were too feeble, or insufficient for their expulsion." p. 299.

I there proposed the use of the "ergot;" the remedy which proved so successful in the hands of Dr. Macgill in the case just related. It is true, this is but a single case; and may not be thought sufficient to establish the general usefulness of the remedy in the disease in question; this is granted; but there must be a first case for the trial of every new remedy; and in a disease like that of uterine hydatids, it holds out a strong inducement to repeat the "ergot;" especially as the disease but rarely occurs, and hitherto has been without remedy, though spontaneous cures may have taken place.

W. P. D.]

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Note of a Case of Fustula in the Lumbar Region, communicating with the Bladder. By L. Proudfoot, M. D.—E. D. aged twenty-four, applied to me on the 16th of March, 1827, on account of a fistulous opening which he had in the left lumbar region; upon examination with an elastic bougie, I found it entered about three inches straight forward, then taking a direction upwards, to the extent of eight inches, being within the parietes of the abdomen.

Mr. D. dates the commencement of the disease from a violent wrench which he received at sea, while handing a topsail. This was immediately followed by a discharge of bloody urine and great prostration of strength, for several days.

I commenced the treatment, by introducing a seton opposite the opening, and injecting a solution of sulphas cupri of three grains to the ounce of water, internally; I prescribed the murias hyd. eight grains, dissolved in eight ounces of brandy; under this treatment his general health was much improved, and decidedly beneficial effects resulted from the injection, which was repeated every third day, the only uneasy sensation he felt, was a slight pain in the left groin. About a fortnight after his application to me, he passed a considerable part of the injection from his bladder, which was followed by a discharge of wind from the urethra—this continued for several days, with a small discharge of urine from the opening in his back, particularly after getting up in the morning—he omitted taking the murias hyd. and I gave him the bals. copaiba in the dose of a tea-spoonful three times a day. Different injections were now employed—the black, yellow, and white wash were used, without any sensible difference in the depth of the opening.

The novelty of the case induced me to show it to my former preceptor and much esteemed friend, Dr. Mott, who strenuously recommended the use of the oleum terebinth.

About the beginning of October, I injected nearly two fluid drachms of the oleum terebinth. which soon after was voided by the bladder, with some discharge of flatus; since that time a great alteration has taken place, the depth of the fistula is at present about three inches, and the prospect of a recovery is now very flattering—the seton wore through the integuments in about three months, and the discharge from the opening has throughout the whole course of the disease appeared perfectly healthy.

The injection was thrown to the top of the fistula by means of an elastic bottle, and a small catheter.

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Notice of a Case of Irritation of the Tarsi, caused by Pediculus Pubis. By J. D. Godman, M. D.—A short time since I was politely invited by my friend Dr. Vanderburgh, of New York, to see the following singular case, which he has permitted me to make use of in this way. A child of four or five years of age, belonging to a very respectable family, was observed to be suffering under apparent inflammation of the edges of the eyelids, though in every other respect healthy. The redness seemed remarkably superficial, yet was attended by a very peculiar degree of irritation. The edges of the tarsi appeared as if covered with fine red sand; and on examining the eyelids attentively with a magnifying glass, these grains were perceived to be in motion, and actually proved to be crab-lice, (pediculus pubis.) The roots of the eye lashes were literally loaded with them; the irritation was of course readily explained, and

as easily removed by the use of some mercurial ointment. What rendered this circumstance more singular, was that on the most careful examination of the eyebrows and other parts of the head, no trace of these parasites could be found. From the respectability of the family, and the attention bestowed upon the cleanliness and comfort of the children, no such source of irritation to the eyes of the children could have been suspected. Both eyes were in the same condition, and examined at the ordinary distance with the naked eye, looked as if affected with an inflammation of the tarsi.

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Case of voluntary Dislocation of the Os Humeri. By GEORGE F. LEHMAN, M. D. —On the 8th of August, 1821, I was requested to visit a sailor on board the brig Commodore Perry, Captain Barclay, who had luxated his shoulder.

Upon inquiry, I ascertained that it happened while he was engaged lifting the side of a bag of coffee, weighing perhaps one hundred and twenty pounds.

The luxation was downwards and inwards. I closed my left hand, and placing it in the axilla of the side affected, took hold of the humerus above the elbow, and pressing it to his body, to my surprise the luxation was reduced.

Captain Barclay observed that he was an indolent fellow, and could dislocate his arm whenever he pleased; which he had done several times on the voyage, particularly in port, to escape work. This observation attracted my attention, and I asked the man if he could put his shoulder out of place at will. He answered in the negative; but said very slight causes had that effect, especially when he bent his body far over to raise any thing. I desired him to demonstrate what he meant. A bag of coffee, weighing one hundred pounds, was placed before him. He bent his body over it, and by elevating one-half about twelve inches from the deck, the shoulder was again dislocated. He could, also, by pulling horizontally, remove the head of the bone from its socket.

I reduced it again with the greatest ease, but required a small pad in the axilla, and moderate extension to accomplish it. I could not succeed as in the first instance. No pain whatever was created either by the luxation or reduction of the bone, and none existed during the displacement.

This person certainly had the power to luxate his os humeri at discretion, without pain or uneasiness, and no doubt he was in the habit of doing so to elude laborious employment. Twice it had been disjointed on the same voyage in the West Indies. Physicians were called to replace it, who as a matter of prudence, directed the arm to be kept in a sling, and at rest for a few days, and thus he escaped labour. Immediately after I reduced it, he went to work as if nothing had occurred.

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*Brazilian Medical Journal.**—The appearance of a medical journal in the Brazilian empire may be regarded as a happy omen, and if it be conducted upon the same liberal principles with which it has commenced, it cannot fail to be of great benefit to the medical profession of Brazil. The three first numbers, (for January, February, and March, 1827,) the only ones we have received, are filled with extracts from the journals of France and England, and with notices of recent works and improvements in medicine and surgery. The original department is at present necessarily limited, but at no distant period we may hope that the physicians of that part of the American continent will contribute their proportion to the advancement of medical science, for which they have an ample field in the investigation of the medicinal productions, and the peculiar diseases of their climate. We wish Dr. Sigaud the fullest success in his spirited and laudable exertions to diffuse professional knowledge. J. D. G.

* O Propagador das Scienceias medicas, ou annals de medicina, chirurgia e Pharmacia; Para O Imperio do Brazil; e nagoes estrangeras, seguidos de hum Boletim especialmente consagrado as Scienceias Naturals, Zoologia, Botanica, etc. etc. Por J. F. Sigaud, Doutor em Medicina. Rio de Janeiro, 1827.

Epidemic Yellow Fever of Washington, Mississippi.—Dr. JOHN W. MONETT has published in our esteemed cotemporary, *the Western Medical and Physical Journal*, an interesting account of the epidemic yellow fever which occurred in Washington, Mississippi, in the autumn of 1825. We extract the following details.

"Washington is an inland town, six miles east of Natchez, containing about two hundred and fifty inhabitants proper, previously to the present epidemic, of whom nearly one-half were blacks. It is situated upon an elevated site, naturally well supplied with drains: the soil is alluvial, and like all the surrounding country, is very uneven, or rather abruptly undulating; so that no marshes are to be found nearer than the Mississippi, which is six miles distant. The town covers a large extent of ground, for the number of its inhabitants, the buildings being thinly scattered, principally on one street, which is near a mile in length. There are to be found in it none of those sources and collections of filth, which are so frequently met with in cities and large commercial towns; but the general appearance is that of a pleasant and cleanly country village.

"This place has generally been noted for the excellent health enjoyed by its inhabitants; and it has been a principal resort for safety to the citizens of Natchez, when that city has been visited by yellow fever. No case of yellow fever, so far as I have been able to learn, ever originated in Washington, previous to the autumn of 1825; not even in 1823, when Natchez was so severely visited by that disease, and when Washington was crowded with those who had fled for safety, with great quantities of merchandize. During the summer and autumn of 1825, it continued quite healthy for the season of the year, until after it had been crowded with people and goods of every description from Natchez, where yellow fever had made its appearance. The surrounding country, likewise, was unusually healthy previous to the epidemic, and remained so during the fall, notwithstanding the great mortality that prevailed in Washington and Natchez. No peculiarity of disease was observed during the summer, excepting a few cases of typhus gravior, and congestive bilious fever, which occurred in August, and the early part of September. Some cases of the same character occurred, likewise, in July, yet they were by no means more frequent than in former years.

"The spring and summer until the last of July, were agreeably diversified by showers of rain and clear weather; although the quantity of rain, which fell during that time, was less than usual, the heat was considerable, ranging, generally, between 80° and 90° of Fahrenheit. The following is the medium temperature of the atmosphere in the shade, from July 10th, to September 25th, viz.

From 10th, to 31st of July.—Medium temperature at				5	o'clock,	A. M.	76½°
Do.	do.	do.	do.	4	do.	P. M.	91°
From 1st, to 31st of August.—Medium temperature at				5	do.	A. M.	78°
Do.	do.	do.	do.	4	do.	P. M.	90°
From 1st, to 25th of Sept.	do.		do.	5	do.	A. M.	72½°
Do.	do.	do.	do.	4	do.	P. M.	85½°

Five o'clock, A. M. and four o'clock P. M. being the extreme.

"During the months of August and September, the heat, although not so extreme, as in July, was oppressive, and almost without remission; and the drought was equally great, not more than two or three light showers of rain having fallen during that time. Nor, indeed, was there any material change in the weather until the 15th of October, when it became cooler, and the atmosphere appeared more humid; which state of the weather was succeeded by rains and hard frosts, about the last of October and first of November. Previous to this change, all moisture seemed to be dissipated: the dews, which here are generally heavy, ceased almost entirely, and the comparative warmth of the nights, with the small portion of moisture, which descended, was insufficient to restore the drooping vegetation from the effects of excessive heat.

"About the last of August, cases of yellow fever were reported in Natchez; and the Board of Health advised the citizens to leave the place. The consequence was, that in two or three days a great proportion of them fled, many were dispersed in the surrounding country; the merchants, principally, crowded into Washington, bringing with them all kinds of goods and groceries. Houses which before had been considered unfit for residence, and as such were abandoned, were now filled with tenants. About this time several persons died of yellow fever in Washington, who either left Natchez after they were taken, sick, or whose disease could be distinctly traced to that place.

"Ten or twelve days after the flight from Natchez, the first cases occurred which originated in Washington. The first case was that of Mr. L.'s child, which died on the sixth day after its sickness. On the next day Mrs. C. was taken sick, and died on the eighth day of her disease. On the same day three others were taken with yellow fever, of whom two died; one on the fifth and the other on the sixth day of their disease. Of these three M. and L. lived together in a house entirely isolated, and two hundred yards distant from the main street, on an elevated and clean situation. They were carpenters by trade, and during the week previous to their sickness, had been shelving rooms for the merchants from Natchez, and likewise assisting them in opening and putting up their goods: to this source they attributed their sickness. M. died on the fifth day; L. recovered. The other case, Miss P. was attributed to the admission into their house, (which consisted of but one room,) a family from Natchez, with their household furniture. Cases now began to occur, indiscriminately in every part of town, with much malignancy; insomuch that a majority of the inhabitants, together with those who had fled from Natchez, speedily left town, and retired to the surrounding country.

"At the commencement of the epidemic, negroes were supposed exempt from its influence, and indeed none of them were attacked during the first few days. After which, those of them who were exposed to its influence were occasionally attacked: but in them it was generally mild, seldom requiring blood-letting. The whole number of them attacked was fifteen, of whom three died: while the whole number of whites attacked was about one hundred, of whom forty-nine died.

"Several of those who left town on the first alarm, to avoid the disease, were afterwards attacked with it, and died in the country; some were taken as late as the ninth day after having left town, and died: I know of none attacked at a later period after exposure. Those who were removed to the country were attacked, and those who were attacked after they left town, appeared to fare no better than those who remained.

"The wind, rain, and frost, which occurred between the 15th and 28th of October, gave a check to the disease; and for several days during that time, and later, no new cases occurred. The people believing that the infection was destroyed by the cold, returned to their homes, having previously caused their houses to be well ventilated and cleansed. From October 28th until the 5th of November, the weather, during the day, was quite warm; insomuch, that people began to be apprehensive as to their safety, and not without cause: for, between the 7th and 10th of November, nine new cases occurred in those who had returned, and who had not used sufficient precaution in re-occupying their houses; of which cases five terminated fatally. Of the above nine cases, four occurred in one house; where, in the early part of the epidemic, several persons had laboured under the disease, of whom some died. In cleansing this house, the servants had neglected to wash and sun the bedding, which were incautiously used by those who returned. About the time these cases occurred, the weather set in wet and cold, and health was restored to the place, no case having appeared afterwards.

"So general had been the morbific influence in the town, that scarcely any, who remained, entirely escaped: and so fatal was the disease, that one-half of those attacked, fell victims to its violence. Of the before-mentioned number

of deaths, thirty-five were inhabitants of Washington; the remainder were persons from Natchez, and the surrounding country. Hence it will be perceived that upwards of one-fourth of the whole white population of the place were swept off—a mortality unequalled!

"As to the *origin* of this fever in Washington, two different opinions are entertained and supported by their respective advocates. One is, that it originated in Natchez, and was transported to Washington, in the state of fomites in blankets, and various other articles of merchandize. The other is, that it originated in Washington, independently of Natchez.

"That yellow fever may be infectious is believed and supported by many able authorities, which shall not now be adduced; many of whom, have been long intimately conversant with it in different climates. That it may be propagated by means of *fomites*, contained in blankets and other articles, I am convinced, not only from authorities, but likewise from personal observation. And during the late epidemic, several cases fell under my observation, which to me incontestibly prove the fact: cases where the disease was produced in the country, without any exposure to town, from the blankets and bedding, used by persons who died of that disease after being removed from town. At a gentleman's two miles from Washington, two of his relations, after being removed thither, died of yellow fever. The bedding on which they had laid, by accident, were thrown together in an upper room, where they remained several days. In this place they were found by three small girls, who, for two or three days, unknown to their parents, were in the habit of going into this room to play upon the bedding. In a short time all three of those children were attacked with well marked cases of yellow fever; notwithstanding, the situation is and has been noted for its salubrity, and they had no opportunity of contracting the disease elsewhere. These were the only persons in that family who contracted the disease."

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Lucy Foster, a servant maid, æt. fifteen, fleshy and healthy looking, commenced to menstruate at the age of thirteen; and continued regular until about the latter end of May, 1785, at which period the menses not appearing, and being exposed and negligent of her health, her mother supposed she had taken cold. On the 1st of June she was attacked with pain in her left hypochondrium, with cough, fever, oppression at her breast, with dyspnœa, and great irritability of the stomach. About the middle of July she vomited a quantity of bloody pus. She had a suppression of urine for twenty-four hours, which was relieved spontaneously.

In about two months she had recovered so far as to be able to return to her usual occupation, her menses returned, and continued well until June, 1786, when her old complaints, with the exception of the suppression of the menses returned with greater severity than before. The irritability of her stomach was so great that she rejected almost every article of nourishment or medicine that was given her. Opium afforded the most permanent relief.

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The beginning of the sixth day she was taken with a vomiting, and she brought up water, which she said tasted in every respect like urine. "As her vomiting continued, she found relief in the bottom of her belly, from the swelling and great soreness she had felt for several days.

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As she had discharged from her stomach every thing she ate or drank, from the time of her first vomiting, she did not suffer so much from the Ischury, as she did before the first evacuation. Dr. Senter prevailed upon her to let him pass the catheter into the bladder, whence he drew about three pints of urine, clear, but high-coloured; her strength was very much exhausted, and she felt great heat and soreness throughout the abdominal viscera.

For ten weeks successively, she was incapable of retaining in her stomach any thing except opium.

From this time to December, she continued with very little abatement of her distress. And as she could lie in no other position, she was constantly supported in an armed chair, in a reclined posture, with pillows under her hips.

"Whenever I omitted to draw off her water once in thirty or thirty-six hours at farthest, she never failed to vomit it up. To ascertain so extraordinary a fact beyond the possibility of a mistake on my part, or a deception on hers, I often visited her about the time I knew she must vomit if the catheter was not introduced; and I examined her bladder, found it full, hard, and tender; and sat by her till the vomiting recurred, saved the water that she brought up this way, and compared it with that I drew off, and found it the same in every respect.

"In the month of January, 1787, from some cause unknown she could not be relieved with the instrument, nor could she vomit up her urine for several days; when it passed off by the *navel*, for three days successively, after which, the catheter was used with the same effect as before.

"About the beginning of August, a *brick-coloured gravel* began to pass off through the catheter, and soon became so large and plentiful that neither urine nor gravel could be completely evacuated by the instrument in its usual form.

"She continued to discharge gravel this way, whenever her urine was drawn off, till the beginning of November, at which time she felt more distress than usual, whenever her urine came off by vomiting, and she soon observed a *gritty substance* in her mouth. When I was informed of this new phenomenon, I requested her to save the urine for my inspection, the next time she vomited. I compared this with what I drew off, and found it contained the same kind of *gravel* as that which passed the catheter.

"From this period to the summer 1788, her complaints continued much the same. When her water was not drawn off she always brought it up by vomiting; commonly attended with great pain in the head. The *hypogastrium* now became more tumid and tender, and her bladder appeared very much thickened and extremely sore, even after it was evacuated. Add to this, the apparent inequality of the surface of the bladder, was so great, and the tumour shifting sometimes towards the right, and at others to the left inguen, according as her body was moved, that I began strongly to suspect a stone.

"Through the month of September, her urine could very rarely be drawn off; for upon the introduction of the catheter, a spasm seized the urethra and neck of the bladder, and though the instrument appeared to pass high up into the fundus of the bladder, not more than a gill could be drawn, before it stopped entirely, with a sensation of something falling down against its cervix, which she was very confident was a *stone*.

"In the course of this month she vomited more sand than she had at any time before, and failed in strength and spirits so fast, that I was apprehensive she would not live the month out. Her urethra, bladder, and external genital parts were so extremely sore, that for some time, it prevented my searching her for the stone in the manner I intended.

"About the beginning of October, I was able to introduce the sound, when I readily met with a stone, which appeared of a small size, and rather softer than urinary calculi commonly are. I repeated the examination a number of times, till I was perfectly satisfied that this was the case.

"During the remainder of the fall, and principal part of the winter ensuing, the same troublesome sensation of the falling down of a stone in the bladder, upon the use of the catheter, continued, and induced the most excruciating pain and misery imaginable.

"Her bowels, for the most part, were much less constipated than could have been expected, considering the frequency of vomiting, her supine situation, and the little nourishment she was able to retain upon her stomach: and during the whole of her disease, till within three months of her death, the catamenia were irregular. Sometimes they appeared every fortnight, and at others, she passed the regular period for that evacuation two or three months, without having any; but it did not appear to me that her disease was much influenced by either.

"Early in the spring, 1789, her urine began to pass *per anum*, loaded with the same kind of gravel that had come away by the catheter. This gave her some respite with respect to her vomiting, though she continued to throw up more or less urine as well as gravel that way every week.

"This new course of her water gave her a very troublesome *tenesmus;* but the stone in the bladder, as well as the pain and disagreeableness arising from the sensation of its descent, became daily less fatiguing. Her strength and spirits decayed fast, and the fever that she had before continually laboured under, grew more completely hectical.

"After the 13th of May, her bladder never became so much distended with urine as it had been before; and both this and the gravel, now generally passed her once in twenty-four hours, either by vomiting or purging. She, however, introduced the catheter herself, and sometimes drew off her urine to the quantity of a gill.

"The secretion of urine, as well as the formation of calculi, evidently diminished, in proportion to her loss of strength, and the increase of the diarrhœa. The menses entirely ceased.

"During the latter part of spring and summer, she became quite paralytic at times; the frequency of vomiting increased, and she had several convulsion fits after vomiting. She grew more and more emaciated; her convulsions returned more frequently; her fever was more putrid; she at last became lethargic, and on the 11th of August, death, which she had long and ardently wished for, put a period to a series of the most complicated and singular misery that I have ever seen since my acquaintance with disease."

The day after death Dr. Senter examined the body in the presence of Drs. Waterhouse and Mason.

"*Thorax.*—In this cavity there was nothing appeared unnatural, except a considerable adhesion of the right lobe of the lungs to the pleura. *Abdomen.*—The omentum was principally wasted, but not more than is commonly the case with those who die tabid. It was, however, of a dark gangrenous colour pretty generally. *Stomach.*—This appeared very much changed from its natural colour, and in a gangrenous state, containing a semi-purulent matter of a fœtid scent. *Liver and Gall bladder.*—There were no preternatural adhesions of the former, nor gall stones in the latter; and their colour, &c. not unusual. *Intestines.*—In these there were no ruptures either of their muscular coats, blood-vessels, or lymphatics, that we could discover. The villous coat was much destroyed, and the colour of the intestines darker than is common, except the *duodenum*, which was very much discoloured with the bile. *Kidneys and Ureters.*—In these there was no considerable deviation from a state of soundness; they were lax or flabby, but no rupture of any of their vessels, or any calculi discoverable. *Urinary Bladder.*—This was in its natural situation, not the least thickened, had no sand or gravel in it, nor did it adhere preternaturally to any of the circumjacent parts; and the muscular sphincter of its neck yielded readily to the introduction of the finger from the bladder into the urethra. *Uterus.*—In its cavity was contained about a drachm of thick, darkish, fœtid pus; but no other appearance of disease in its body. *Tubæ Fallopianæ.*—Were larger than common in virgins, and strung with several *hydatids* or *vesiculæ*, the size of a walnut, filled with a watery glutinous humour. *Corpora Fimbriata.*—Had a gangrenous appearance. *Ovaria.*—Were enlarged to the size of a small hen's egg, and contained a considerable quantity of a clear limpid fluid immediately under the first coat."

Secret Remedies.—We have read with great satisfaction the "Reports of the Medical Society of the City of New York, on Nostrums or Secret Remedies." The first article noticed is CHAMBERS' *remedy for intemperance.*—Drs. HAMERSLEY, DRAKE, MANLY, WATTS, IVES, and JOHNSON, the highly respectable committee to whom this subject was referred, inform us that they employed Dr. G. Chilton, an able and experienced chemist to analyze the medicine, and that the results of his experiments show it to be composed of tartar emetic, capsicum, sulphur, carbon, cochineal, and gum. "If any doubt," say the committee, "could rest upon this result to which the analysis leads, it could not fail to be removed by the collateral evidences which may be brought in confirmation from its exhibition both internally and externally—its effects upon the stomach and bowels are precisely those which ought to be expected from tartar emetic, and externally applied it will produce the pustular eruption which is peculiar to this metallic salt." This medicine then owes any efficacy it may possess to the tartar emetic which it contains—of its value, therefore, as a remedy for intemperance, or of the danger of fatal consequences resulting in some cases from its exhibition, we need not here speak—every professional man will know how to estimate it.

The second report is on LEROY'S *Médecin Curative;* as this remedy, however, is rarely used in this country, we shall merely remark, that the researches of the committee show that it is composed of articles which produce the most drastic purgative, and also powerful emetic effects.

The third report is drawn up by Drs. Pascalis, Hamersley, Drake, Manly, and Watts, and is on SWAIM'S *Panacea*, and the other *depurative syrups*—the *Columbian Syrup*, PARKER'S *Vegetable Panacea*, POTTER'S *Catholicon*, SHINN'S *Panacea*, SCOTT'S *Panacea*, WILSON'S *Panacea*, &c. all of them essentially the same. This report displays great ability and research, and is the most interesting of the three, from the extent of the evil which was the subject of investigation. It appears, (vide Report, page 34,) that about the year 1811, Dr. Berger, the elder, was joined in consultation with several physicians of New York, in the case of a gentleman labouring under a loathsome complication of disease, the sequelæ of *syphilis*, and the repeated and irregular use of mercury, which had resisted all the ordinary modes of treatment, and at his, (Dr. Berger's) suggestion, the rob of Laffecteur was given, and with good effects. "The remarkable recovery of this gentleman, and the difficulty of obtaining an adequate supply of the rob for extensive use, owing to the restrictions that at that time existed on our commercial intercourse with Europe, led Dr. McNeven, who was one of the physicians in the consultation, to give publicity to its composition and its worth. He accordingly published in the third volume of the Medical and Philosophical Journal and Review, the recipe of M. Allion, a French chymist, for its preparation. The remedy prepared according to this recipe, with the exception of substituting the bark of sassafras, or the shavings of guaiacum for the marsh reed-grass, was soon after employed by several of our city practitioners, with the usual happy results. Among many patients, Mr. SWAIM, then a book-binder living in this city, experienced its beneficial effects *in his own person*, and soon after succeeded in obtaining from Dr. N. J. Quackinboss, the practitioner who had administered it to him, the recipe for its formation, and the directions for its employment: whereupon he removed to Philadelphia. and set forth his vegetable syrup, which he denominates Swaim's Panacea, for the treatment of those diseases for which the rob has been so long celebrated. In the first instance, Mr. Swaim's directions for using his panacea, for preparing the sarsaparilla ptisan, and the quantity and times of taking it, in conjunction with the syrup, were the same, nearly verbatim, as those given by Dr. McNeven, in the publication above referred to, for the use of the rob; but of late he has altered his directions considerably, and has ceased to insist on the conjoined use of the sarsaparilla ptisan, even in small quantities. The flavour of the sassafras in the syrup first prepared by Swaim was very perceptible, but it is now the opinion of many, that he has substituted the leaves of the Pipsissewa, (Chimaphila corymbosa of Pursh,) for

the marsh reed-grass, sassafras or guaiacum, which we think very probable. However this may be, the Syrup also contains the oil of winter-green, (ol: gaultheriæ;) for its flavour is evident both to the smell and taste. Swaim's object in this addition, is, doubtless to disguise the other materials, and to render the medicine agreeable to the taste, but it may also be a useful addition as a stimulant and carminative, obviating that loathing and disgust of the medicine, which sometimes occurs from its long-continued use."*

That the sarsaparilla in the form of a syrup or decoction, alone, and when combined with corrosive sublimate, is a very valuable remedy in several forms of disease, is known to every medical man; it has been long in familiar use by the profession—but that the last combination unless administered with discrimination and judgment, is often productive of the most fatal consequences, is equally well known, and that this must be the case must be evident to every one who is acquainted with the highly poisonous properties of the chloride of mercury.

The committee appointed by the Philadelphia Medical Society to inquire into the remedial value of the more prominent specifics now sold in Philadelphia, have been pursuing the objects of their appointment with zeal and success, and have, we are informed, collected a mass of evidence respecting the effects of Swaim's panacea,† which they will shortly lay before the public; they received documents from Drs. Chapman, Horner, Emlen, Randolph, Griffith, the Philadelphia Alms-house, &c. &c. tending to prove its inefficacy in some cases, and its injurious and even fatal effects in others.

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Sulphuric Acid as a Cure for Intemperance.—M. Bruhl Cramer, a German physician, asserts that sulphuric acid, taken with bitters, completely eradicates the disposition to the intemperate use of ardent spirits. Dr. W. D. Brinkle has related, in our cotemporary the *North American Medical and Surgical Journal*, several cases in which he has administered this acid, and which tend to confirm in a great measure the assertion of Dr. Cramer. Dr. Brinklé adds from one to two drachms of the acid to a pint of the favourite liquor of the patient, and orders a wine-glassful to be taken every one, two, or three hours—the interval between the doses being regulated by the quantity of liquor the patient has previously been in the habit of drinking—it is not to be taken to the extent of producing intoxication.

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Delirium Tremens.—Dr. Coates has published in the *North American Medical and Surgical Journal* for July and October last, an elaborate paper on this disease—he concludes his paper with the following summary of his views.

"1. The disease is a delirium and not a mania, and this distinction should be attended to, both for medical and legal reasons.

2. It consists in a heightened activity of the sensorium; and this appears to arise from the generation, in that organ, of an unusual vital power, which is not, as is common, exhausted by the narcotic poisons habitually used. This is not considered as an hypothesis, but the expression of a fact existing in nature.

3. The delirium may be combined with other diseases and injuries, situated in many different parts of the body.

* Swaim, however, at least in many instances, adds the corrosive sublimate to his preparation. This is proved by the fact that profuse salivation frequently follows its use.

† Swaim continues to announce in the pamphlets accompanying his medicine, that it is employed in the Pennsylvania Hospital and Philadelphia Alms-house. This statement is incorrect. When Dr. Price, who subsequently became an agent of Swain in England, and who failed to introduce it into vogue there, was one of the attending physicians, he was accustomed to prescribe it very repeatedly; but it has not been used in that institution since Dr. Price left it.

In the Philadelphia Alms-house its use has been discontinued for several years. Dr. S. Jackson, when elected one of the physicians of that institution, introduced the syrup de Cuisinier, the compound syrup of sarsaparilla of the American Pharmacopœia, as a substitute for the panacea, and it has been continued to the present time. In the practice of the Alms-house the syrup de Cuisinier has generally proved more successful than Swaim's "Panacea," as an appropriate treatment to each particular case is usually conjoined with its exhibition. The cost to the Alms-house of the syrup de Cuisinier, is about thirty cents per bottle, instead of five dollars, the sum originally paid to Swaim, and afterwards of three, the price at which he now vends it. S. J.

4. When violent, it obscures and renders imperceptible most of the symptoms of the co-existing disease.

5. It is doubtless necessarily accompanied, as all vital excitements are, with an unusual amount of the circulation of the blood in the organ affected; and is from this cause sensibly influenced by cups, blisters, and emetics. It is not so far checked by the use of emetics as to render these advisable as a leading means of cure. It is not sufficiently under the control of the general circulation to be cured by venesection; or to be sensibly relieved by it, without such an exhaustion as is highly dangerous to life.

6. It is entirely and absolutely under the control of opium; although the fevers and other diseases which are liable to accompany it may be by no means so.

7. It admits of very large doses of opium, which are not productive, either at the time or subsequently, of any injurious consequences, provided they are not repeated after a tendency to sleep is evinced.

8. The patient must *sleep or die*. There is no alternative. Yet the physician should personally watch the effect of very large doses of opium.

9. There is no distinction of stages which need occasion a moment's delay in resorting to opium.

10. Purgatives are of no use in this delirium; but it is necessary to prevent costiveness subsequently to the administration of opium. Purgatives may be necessary for diseases which exist at the same time; but when this is the case, they are, in general, most advantageously postponed till after sleep has been obtained.

11. Gentle stimulants are frequently useful during the convalescence; but these should not resemble ardent spirits; and an excellent and sufficient one is capsicum. Nor should any ardent spirits, unless indicated by peculiar circumstance, be given during the paroxysm."

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Appointment of Assistant Lecturer on the Institutes and Practice of Physic, and Clinical Medicine in the University of Pennsylvania.—Dr. Samuel Jackson has been appointed assistant lecturer on the Institutes and practice of physic and clinical medicine in this university. The object of the appointment, we understand, is to allow Professor Chapman to give an undivided attention to the practice of physic—leaving the institutes to be taught by his colleague. An arrangement of this nature has long been demanded, and while the scheme of medical education is thus enlarged and perfected, it involves no additional expense to the student—since Dr. Chapman, by whom the appointment has for several years been earnestly solicited, voluntarily appropriates a portion of the proceeds of his chair as a compensation to his assistant.

No selection, we believe, could be more judicous than that of Dr. Jackson, for the reputation of the school, or the general interests of medical science. He will bring to the enterprize in which he is to enter, the genius, learning, and enthusiasm by which he is eminently distinguished, and applied, as they will be, to an important department of medicine, heretofore too much neglected, cannot fail, we think, to render the most valuable services.

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The Institutes and Practice of Surgery, being the Outlines of a Course of Lectures, by William Gibson, M. D., &c. A new edition of this work, with numerous additions, is preparing for publication—it will be ready early in November.

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New Dispensatory.—Messrs. Towar and Hogan have just published an "Eclectic and General Dispensatory: Comprehending a system of Pharmacy Materia Medica, the Formulæ of the London, Edinburgh, and Dublin Pharmacopœias, prescriptions of many eminent physicians, and receipts for the most common empirical medicines: collated from the best authorities, by an American Physician." This work appears to contain in a condensed form, a very large amount of information relative to Pharmacy and the articles of the Materia Medica.

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TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. HEUSTIS and COLVIN: other correspondents, who have favoured us with communications, will receive private answers.

Our friends will be pleased to learn that the success of this Journal has been most flattering; the first edition of No. I. is entirely exhausted; a new edition is now in press.

The following publications have been received:—

Annales de la Médecine Physiologique, par F. J. V. BROUSSAIS, D. M. For August and September, (in exchange.)

Journal des Progrès des Sciences et Institutions Médicales en Europe, en Amérique, &c. Vols. IV. and V. (in exchange.)

The Edinburgh Medical and Surgical Journal, for October, 1827, (in exchange.)

The London Medical and Physical Journal, for October, November, and December, 1827, (in exchange.)

The London Medical Repository and Review, for October, November and December, 1827, (in exchange.)

The Medico-chirurgical Review, edited by JAMES JOHNSON, M. D. for October, 1827, (in exchange.)

The Western Medical and Physical Journal, Original and Eclectic, for September, October, and November, 1827, (in exchange.)

North American Medical and Surgical Journal, for January, 1828, (in exchange.)

Bulletin des Sciences Medicales for June, July, and August, 1827, (in exchange.)

Revue Encyclopedique, August, September, and October, (in exchange.)

Rheumatism and some of the diseases of the heart and other internal organs: considered in the Gulstonian Lectures, read at the Royal College of Physicians, May, 1826. By FRANCIS HAWKINS, M. D. one of the physicians to the Middlesex Hospital. London, 1826, 8vo. pp. 144. Longman & co.

Appendix to the papers on the nerves, republished from the Royal Society's Transactions, by CHARLES BELL; containing consultations and cases illustrative of the facts announced in those papers. London, 1827, 8vo. pp. 144, pl. 1. Longman and co.

A treatise on gunshot wounds, on inflammation, erysipelas, and mortification, on injuries of nerves, and on wounds of the extremities requiring the different operations of amputation; in which the various methods of performing these operations are shown, together with their after-treatment; and containing an account of the author's successful case of amputation at the hip joint, &c. &c. &c. with five explanatory plates. Being a record of the opinions and practice of the surgical department of the British army, at the termination of the wars in Spain, Portugal, France, and the Netherlands, in 1814 and 1815. By G. J. GUTHRIE, F. R. S. surgeon to the Westminster Hospital, and the Royal Westminster Infirmary for the Eye, &c. &c. &c. Third edition. London, 1827, 8vo. pp. 559. Burgess and Hill.

Conversations on Anatomy, Physiology, and Surgery. By Archibald Robinson, M. D. &c. Edinburgh, 1827. pp. 450, 12mo.

Observations on the Causes, Symptoms, and Treatment of Derangement of the Mind, founded on an extensive moral and medical Practice in the Treatment of Lunatics. By Paul Slade Knight, M. D. &c. London, 1827, pp. 167, 8vo.

Observations on the Causes and Early Symptoms and Defects in the form of the Spine, Chest, and Shoulders, and on the means of Correcting them, with Remarks on the different Methods pursued in this Country and on the Continent, in the Treatment of Distortions; being an enlarged edition of the papers lately published in the London Medical and Physical Journal. By John Shaw, Surgeon to Middlesex Hospital, &c. London, 1827, 8vo. pp. 130, pl. 7, and several wood cuts. Longman & Co.

A Dissertation on the Features and Treatment of Insanity: containing a Retrospect of the most important Modern Theories on the Subject, and Observations on the Inadequacy of our present knowledge of the Physiology and Pathology of the Brain, to elucidate the phenomena of Mental Derangement. By John Syer, Surgeon, &c. London, 1827. 8vo.

Practical Observations on the Management and Diseases of Children, by the late Charles Thomas Haden, Esq. with Additional Observations and a Biographical Notice of the Author. By Thomas Alcock, Surgeon. London, 1827. 8vo. p. 188.

An Introduction to the Comparative Anatomy of Animals; compiled with constant reference to Physiology, and elucidated by twenty plates. By C. G. Carus, Med. et Phil. Doct. Professor of Midwifery, &c. &c. Translated from the German by R. T. Gore, Member of the Royal College of Surgeons in London, 2 vols. 8vo. pp. 771—1 vol. 4to. of plates. London, 1827. Longman & Co.

The Lectures of Sir Astley Cooper, Bart. F. R. S. Surgeon to the King, &c. &c. on the Principles and Practice of Surgery; with additional Notes and Cases, by Frederick Tyrrell, Esq. Surgeon to St. Thomas's Hospital, and to the London Ophthalmic Institution, Vol. III. London, 1827. 8vo. pp. 538, 2 plates.

Introduction to the Science of the pulse, as applied to the Practice of Medicine. By Jules Rucco, M. D. &c. &c. London, 1827. 2 vols. post 8vo. pp. 803.

A Concise Description of the Locality of the Arteries in the Human Body. By G. D. Dermott, Lecturer on Anatomy and Surgery, in the Anatomical School, Little Windmill-street. London, 1827. 12mo. pp. 144. Diag. 3.

Anatomical Description of the Reflections of the Peritoneum and Pleura; with Diagrams. By G. D. Dermott, Lecturer on Anatomy and Surgery, &c. London, 1827. 8vo. p. 24. Diag. 5.

Saggio di Elettro-Magnetismo dedotto dagli esperimenti instituti nel gabinetto fisico della Universita' di Roma da Saverio Barlocci, Professore di Fisica Sperimentale in detta Universita' e Membro del Collegio Filisofico. Roma, 1826, pp. 74. tav. 2.

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2. Anatomisch Chirurgische Abbildungen nebst Beschreibung der Chirurgischen Operationen, nach der Methoden von Rust, Græfe und Kluge. Von Ludwig Joseph Von Bierkowski, &c. &c. Berlin, 1826. 1 vol. 8vo. pp. 576. (Second vol. not yet published.) With forty Lithographic plates in folio. - - - - - - - - - - - - 409

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4. Traité de l'auscultation Mediate et des Maladies des Poumons et du Coeur. Par R. T. H. Laennec, Medécin de S. A. R. Madame Duchesse De Berry, Lecteur, et Professeur Royal de Medecine au college de France, Professeur de Clinique à la Faculté de Medecine de Paris, &c. &c. &c. Seconde Edition entirement refondue. Toms. 2. Paris, 1826, pp. 1518.

A Treatise on the Diseases of the Chest, and on Mediate Auscultation. By R. T. H. Laennec, M. D. &c. &c. Second edition, greatly enlarged: translated from the French, with notes and a sketch of the author's life, by John Forbes, M. D. Member of the Royal College of Physicians, and Senior Physician to the Chichester Infirmary. With plates. London, 1827, pp. 722. - - - - - - - - - - - - 413

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